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This Report, prepared by a working party of doctors and hospital service administrators set up by the Secretary of State for Scotland, is published as a basis for further study of the questions with which it deals. The medical profession, the hospital authorities and the Government are not in any way committed by its recommendations.

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Preface

1. We were appointed on 14th December, 1965, by the Secretary of State for Scotland with the following terms of reference:—

> "To consider what developments in the hospital service are desirable in order to promote efficiency in the organisation of medical work".

2. We held our first meeting on 22nd December, 1965, and, in order to reach conclusions as rapidly as possible, it was decided to set up sub-groups to consider four aspects of our remit, namely (i) clinical organisation and staff committee systems, (ii) medical staffing, (iii) alternatives to traditional systems of hospital care and (iv) operational research. The sub-groups were composed of members of the Working Party with the addition of co-opted members. Their membership is set out in Appendix I to this Report. We should like to express our gratitude to the co-opted members for the contribution which they made to discussion of their subjects during the intensive programme of meetings held by the sub-groups in order to meet the time-table which we set ourselves.

3. The time allowed for consideration of their topics by the sub-groups did not allow for the taking of a great deal of evidence from outside bodies or individuals, but such evidence as was taken is listed in Appendix II to this Report. We express our indebtedness to all those persons and bodies who have helped us in this way.

4. The main Working Party has met in all nine times, and, while this Report is based on the reports of the sub-groups, the views expressed in it are those of the Working Party itself and do not necessarily coincide in detail with those of the sub-groups.

5. We have decided to confine our First Report to those aspects of our remit which lend themselves to fairly rapid consideration and where our recommendations may be relevant to the immediate situation in the hospital service. As mentioned in paragraph 227, we propose to deal in a subsequent report with matters requiring more detailed consideration, and other matters which we have been unable to cover in the time available to us.

6. In the Introduction we have drawn attention to certain general topics which we consider to be of key importance. Chapter I deals with clinical organisation and contains recommendations for the adoption of a divisional system. Chapter II deals with the problems of medical staffing against the background of the current man-power shortage. Chapter III considers various alternatives to traditional systems of hospital care. Chapter IV on operational research and Chapter V on communications deal in greater detail with two of the general topics referred to in the Introduction. Chapter VI gives our general conclusions including proposals for the implementation of our recommendations and our suggestion that a further working party with wider terms of reference might be appointed. Chapter VII contains a summary of our main conclusions and recommendations.

Introduction

RELATIONSHIP BETWEEN THE HOSPITAL AND OTHER HEALTH SERVICES

7. Although our terms of reference relate only to efficiency in the hospital service, it has become very clear in the course of our consideration of the subject that hospital work cannot be organised in isolation from the other branches of the National Health Service. A patient's admission to hospital or attendance at an out-patient department is merely an episode in a situation which includes the medical care and advice given by his general practitioner before and after that episode, and may also involve the services of the local health authority. There is clearly a need for re-examination of the partnership in medical care required between the patient's domiciliary doctor, the hospital doctor, or team of doctors, and local authority doctors. Unless the hospital service has regard for the needs of general practice and the preventive services, and makes its full contribution to them, they will not be able to accept their full share of the burden in the total responsibility for the prevention and treatment of disease. It is not only in the interests of patients and the community generally but also in the interest of the hospital service itself that the other health services should be assisted in this way.

8. We have not at this stage undertaken detailed examination of the existing relationship between the hospital and the other health services, and consideration of how co-ordination of these, at present separate, branches of the National Health Service could improve efficiency within the hospital service itself. There are, also, broader implications of this relationship for the National Health Service as a whole, and, if our recommendation in paragraph 229 of this Report to set up another working party with wider terms of reference is accepted, these could appropriately be studied by that body.

INTEGRATION OF THE NATIONAL HEALTH SERVICE

9. Even although we have not considered in detail the relationship between the hospital, and community and domiciliary medicine, we have nevertheless in the course of our discussions frequently been impressed by the fact that the present tripartite structure of the National Health Service militates against the provision of a properly co-ordinated medical service and creates problems which need not otherwise exist. We should, therefore, like at the outset to draw attention to the need for integration of the Service. As the present arrangements are based on the National Health Service (Scotland) Act, 1947, any radical change would require legislation, which would have to be preceded by full consultation with all those concerned; but we are convinced that even in terms of the existing statute much could be achieved in this direction given the acceptance of a need for change. We hope that developments in this field can be pursued with all possible speed and vigour.

10. It will be necessary to ensure a competent and enlightened administrative organisation throughout the National Health Service if the maximum efficiency

is to be achieved. We attach considerable importance to the recruitment and training of medical and other administrators to undertake this important work.

COMMUNICATIONS

11. We have been very conscious of the need for improved communication between all concerned with the care of the individual patient, both within the hospital and between the hospital and the other branches of the Service. Some of our recommendations, on clinical organisation, for example, imply increased co-operation between individuals if the benefits of the larger organisational units proposed are to be fully achieved. We see a great need for better communication between clinicians and the administration as a means of encouraging professional staff to take a greater interest in the management of the service. Another vital need is to improve communication throughout the service about new developments and their application. The whole subject of communication is dealt with at greater length in Chapter V.

PATIENT CARE EVALUATION AND OPERATIONAL RESEARCH

12. In our examination of our remit we quickly became aware of the lack of factual knowledge on the operation of the existing system of medical care in the hospital service. There is an obvious need for developing techniques for evaluating the efficiency of patient care. In addition, very little information is available about the actual working of hospital medical staff, for example, in relation to the work-load falling on the different grades. At present, opinions on many aspects of medical work are far too often based only on personal experience and subjective judgments even although the techniques of operational research have now been developed to the point where quantitative studies could be made. It is essential if greater efficiency is to be achieved that more attention be given to the application of these techniques to medical organisation. This subject is dealt with in detail in Chapter IV of the Report.

THE HOSPITAL AND MEDICAL DEVELOPMENT

13. It is one of the features of the present situation with the tendency towards greater specialisation and the increasing scientific complexity of medicine that most developments in medical practice tend to originate in the hospital service. We recognise that in consequence it is only by the full association of all doctors in clinical practice with the resources of the hospital service that it will be possible to develop training for domiciliary as well as for hospital practice, and to ensure the continuing medical education of all doctors in these fields. If he is to keep in touch with the latest developments and give his patients the benefits of them in terms of medical care, the general practitioner must be associated with the hospital through day-to-day contacts with his clinical colleagues. He would, at the same time, contribute to the hospital from his experience of general practice and the greater insight into the social background of his patients which that affords. Conversely, the young hospital doctor could benefit from part-time experience in general practice and movement in this direction would be made more attractive by the opportunities for specialisation likely to be provided by the development of health centres and group practice. We are convinced, therefore, that, in future, joint appointments between the hospital service and general practice will be much more frequent than they are today; indeed, they may well become the normal pattern in an integrated service.

CHAPTER I

Clinical Organisation

EXISTING ORGANISATION

14. The present pattern of clinical organisation in the hospital service, which is based upon the tradition of consultant responsibility, developed largely in the teaching hospitals. It has shown little change in spite of the substantial developments which have taken place in clinical resources and techniques, and in the society in which hospitals function. It derives from a past where the problems to be dealt with by the organisation were very much simpler than they are now. Hospitals were less complex, staffs were very much more limited in numbers and in degree of specialisation. The considerable independence of individual consultants, and indeed individual hospitals, in the past has been replaced by an increasing degree of interdependence.

15. Under the present system the work of the consultant is usually related to an identifiable group of beds in certain wards, and to a fixed number of out-patient sessions. Two or three consultants in the same specialty work together as a unit and share between them the responsibilities of that unit, although one of the consultants may be in administrative charge for certain purposes. This is the so-called "firm" system, an organisation which, with modifications, has lasted over a considerable period and contains within it certain advantages of simplicity from the point of view of patient care. It is described in detail in paragraphs 48–56 of the Platt Report*. That Report considered that the firm system would facilitate the provision of continuous and effective consultant cover for all patients in a specialty and would pay some regard in the distribution of work to the factor of seniority in the consultant grade so that the work would be distributed in such a way that the younger consultants would do more of the physically more strenuous work. Status within the firm system would be determined solely on seniority and there would be no distinction in clinical status. Beds would be allocated either to firms or to individual consultants.

SHORTCOMINGS OF THE EXISTING ORGANISATION

16. Although we accept for the time being the principle that clinical organisation should be based upon consultants, and the principle that individual consultants should be responsible for their own patients, in our view the present unit system by itself is inadequate to give the best results either for patients or for teaching, and we consider that it would be possible to create a better system of clinical organisation without departing from these principles. The shortcomings of the present organisation can be demonstrated in relation to some of the important functions of a modern hospital.

(a) Development of Specialisation

17. As specialisation develops, changes in emphasis are inevitable. Although it is accepted that new specialties and sub-specialties will continue to emerge,

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* Medical Staffing Structure in the Hospital Service. Report of the Joint Working Party. H.M.S.O. 1961.

it is also possible that from time to time specialties hitherto regarded as disciplines within their own right should be brought within the fold of major specialties as their work contracts or changes. Each new development would have to find its proper place, but it seems desirable that units devoted to the main specialties should be large enough to include within them a number of developing sub-specialties, and to allow for the gradual absorption of any specialties which may be declining. A further problem is that the development of a new specialty which in the past depended solely on the clinical art nowadays requires the re-allocation of beds and substantial laboratory and other resources. This type of development calls for a degree of flexibility within the organisation which is difficult to attain with the present structure based on a large number of small units.

(b) Use of Resources

18. Changing problems and techniques, and fluctuations in demand make desirable from time to time redeployment of beds. Some of the changes are permanent as new specialties and new techniques develop, or old specialties decline. Permanent changes are also required to introduce selective grouping of patients according to their different clinical requirements, and these changes will mean that the patients of a particular consultant may be in different locations in a hospital or in different hospitals, and that junior medical staff and nursing staff will work for a number of consultants. Other changes are temporary arising from such things as the increased demand for medical beds in the winter compared with the summer. The present organisation, based as it is on a series of small independent units, is not well adapted to the re-allocation of resources on a hospital-wide basis.

(c) Training

19. One of the advantages of the present system is that it leads to development of a close relationship between senior and junior staff. Nevertheless, we feel that the time has come when adequate post-graduate medical training can no longer be given by means solely of an apprenticeship system. We see advantages in training junior staff within a larger type of organisation than the present one which may at times provide a very narrow training in units which happen to have highly specialised interests.

(d) Co-operation between Specialties

20. There is increasing recognition of the need for consultation with members of other specialties. While there is no barrier to consultation at present on an *ad hoc* basis we consider that this could be developed more fully in a clinical organisation based on larger units.

(e) Patient Care Evaluation

21. We consider that there is need for more critical examination and evaluation of hospital work. While recognising that this can be done on a modest scale by individual units it would be much more effective if based on a larger group which would provide a wider basis of comparison and greater resources for the collection and analysis of information. Indeed, we consider that one of the strongest arguments in favour of reviewing the current clinical organisation is the need to facilitate the critical evaluation of hospital work by the participating clinical staff.

(f) Hospital Design

22. The present design of hospital buildings based on large wards frequently grouped in twos and threes lends itself to the present type of "firm" system. This type of layout will, however, disappear in the course of reconstructing hospitals and a new layout based on very large floor areas broken up into small rooms or bays of up to four beds will call for a different and probably more complicated system of allocation of beds. This has implications for both the medical and nursing organisations within hospitals.

(g) Nursing Organisation

23. The medical staff in hospitals are not alone in having a type of organisation which fails to meet the newer requirements of hospital practice. Nursing organisation is similarly geared to the requirements of a type of hospital practice which is rapidly disappearing. The Salmon Committee was appointed by the Health Ministers in 1963 with the following terms of reference:

> "To advise on the senior nursing staff structure in the hospital service (ward sister and above), the administrative functions of the respective grades and the method of preparing staff to occupy them".

The Committee's Report* was published during the course of the Working Party's meetings. The Report recommends a new staffing structure based on a clear distinction between different levels of management and we appreciate that this may have implications for hospital medical staff.

THE PROBLEM OF RE-ORGANISATION

24. The deficiencies enumerated above are unlikely to be overcome unless medical staff with like interests participate regularly in properly organised meetings from which a consensus of opinion may be obtained. The problem as we see it is to create for this purpose groups which are large enough for their decisions to be effective and their advice authoritative, while retaining any virtues of the present systems. In the paragraphs which follow we argue the case for the establishment of "divisions", each with a chairman who will normally be elected, and each corresponding to an agreed field of clinical or para-clinical practice. It will be evident that an organisational framework of this sort will significantly alter present administrative and clinical relationships. We have been aware in the course of our own discussions that legitimate and understandable differences in emphasis between the central administration, hospital boards and hospital staff may be capable of resolution only by a continuing process of discussion and experiment. We consider that the potential long-term benefits are such, both for the community and for the profession, that these difficulties should be faced, and we have thought it best, therefore, to make firm proposals on the form which a re-grouping of hospital medical staff might take.

PROPOSED DIVISIONAL SYSTEM

25. There is general agreement within the Working Party on the need for a system of clinical organisation based on larger groups of individuals than are to be found in the present units. These larger groups are seen as a mechanism for the pooling of resources and are, therefore, to be regarded as aggregations

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* Report of the Committee on Senior Nursing Staff Structure. H.M.S.O. 1966.

of medical staff with like interests who will find it useful to be able to deal with certain aspects of their responsibilities on a group basis rather than as individuals.

26. The new structure of clinical organisation must be based on the individual consultant. The basic entity would be the "consultancy" which we define as the consultant and that part of the hospital staff and resources which are directly available to him. We recognise that in certain specialties such as radiology and laboratory medicine it might not be easy to identify consultancies in accordance with this definition. The smallest effective entity in such disciplines might be a group which could include one or more consultants.

27. The new and larger administrative entity, which we refer to as a "division", would be made up for the most part of a federation of consultancies within the same discipline. We recommend that clinical organisation should be based upon a divisional system of this kind, although we recognise that there may still be circumstances, for example, common or shared clinical interests, in which it will be convenient for consultants to be grouped together in pairs or otherwise within a division. Such sub-groups, however, would differ from existing units under the "firm" system in that the partners would be on terms of equality not merely in clinical status but in all respects, and there would be no "consultant in administrative charge" of the sub-group. Neither would such a sub-group have the exclusive use of an identifiable group of beds.

28. Divisional systems of clinical organisation are known to operate successfully in other countries, particularly in North America. These systems have arisen in reponse to the needs of the countries concerned and would not necessarily be appropriate for detailed applications to the hospital service in Scotland, but it is of interest that other advanced countries have adopted this type of organisation.

29. The adoption of a divisional system would have widespread implications for the hospital service. Some degree of flexibility is desirable in the functioning of divisions and in their relationships with other parts of the organisation, but some initial definitions and guidance seem necessary and in the following paragraphs we consider in greater detail the functions, the scope and structure and the administration of a division.

FUNCTIONS OF A DIVISION

30. We are agreed that certain functions could be more effectively carried out by the proposed division than by existing "firms", or by individual consultants. All these functions derive from the duties of individual consultants and they would be dealt with by divisions by agreement because in this way they could be discharged more efficiently than by the individuals.

Planned Use of Resources

31. Boards of Management and Regional Hospital Boards will have some interest in many of the activities likely to be undertaken by divisions, but they will be particularly interested in those functions which concern the development of services and the deployment of resources. Because of this the relationship between divisions themselves, with Boards of Management, and with Regional Hospital Boards are seen to be of importance. More will be said about this later in the Report, but it is envisaged that divisions would be the appropriate forum for the initial formulation of medical advice in relation to the specialty

concerned. In this way individual consultants acting through their divisions could ensure that adequate professional advice is available to hospital boards. Advice from a division would be appropriate on such matters as, for example, the development of a new sub-specialty and the resources which should be allocated to it, the redeployment of resources which might be involved in the creation of an intensive therapy unit, or the identification and setting aside of resources in order to achieve greater efficiency within a division.

Co-ordination with other Specialties and Services

32. Divisions would also have to consider the co-ordination of their activities with those of divisions involving other specialties. This is likely to be of increasing importance as more and more areas arise in which the activities of different specialties cut across the traditional boundaries between them. The structure should be sufficiently flexible to allow links to be formed between divisions; the formation of joint committees or cross-representation between divisions might normally suffice, but in some circumstances completely new divisions might be formed in the course of time out of one or more existing divisions.

33. Co-ordination with the activities of the nursing services is likely to increase in importance and complexity. We expect that a new type of nursing organisation will evolve in response to the pressures on the nursing service and will broadly take the form recommended in the Salmon Report. There is a need for discussion between the medical and nursing organisations within a hospital to ensure that each is fully aware of the pressures on the other and the probable trend of developments. This discussion must take place at various levels but much of it could usefully be undertaken by a division.

34. The division would take over such matters as the co-ordination of duty and leave rosters. In drawing up the leave rosters, it would take into account such matters as seasonal fluctuations in bed requirements and it would make recommendations on the allocation of long-term study leave. The division would also be in a position to co-ordinate some of the other activities of medical staff which at present tend to be inadequately co-ordinated above unit level. If divisions undertook a continuing review of waiting lists it should be possible to deploy the resources of the division more effectively and not only reduce the overall waiting time but avoid the marked discrepancies which sometimes exist at present between the waiting times in different units.

35. This type of review of activities could be extended to the relationship with other branches of the National Health Service. The traditional pattern of medical care based on the three parts of the National Health Service has resulted in functional barriers. A hospital division which would in many instances be related to a discrete catchment area would be in an ideal position to take initiative in breaking down these barriers and evolving new patterns of medical care in co-ordination with other branches of the National Health Service.

Patient Care Evaluation

36. We consider that the development of systematic critical evaluation of clinical work should be one of the most important functions of a division. Although it appears to be more firmly established in North American hospitals than in this country, the experience of members of the Working Party indicates that a certain amount of this type of activity is already taking place. In some

hospitals the practice has developed of holding regular and fairly frequent meetings attended by all the members of a discipline. At these meetings cases are presented and current practices are examined critically. While we do not wish to depart from the principle that each consultant is personally responsible for his own patients, we see great value in the results of clinical work being examined on a group basis. This examination can most effectively be undertaken within a fairly large group which would be able to contribute a sufficient cross-section of experience and opinion and could command the necessary resources to organise and maintain effective evaluation. The division would clearly be well suited for this type of activity; in many instances it would be large enough to undertake this on its own although there would be advantages even for the largest divisions in co-ordinating with other specialties. The subject of patient care evaluation is dealt with at greater length in Chapter IV of our Report.

Education and Research

37. The division would also be a suitable forum in which the medical staff could confer on education and research matters including the deployment and training of the junior staff, and through which they could exercise their functions and responsibilities in these matters. We are of course aware of the interests of the universities in education and research and we considered at length the relationship which might exist between a hospital division and the corresponding university department. More will be said about this later in this Chapter, but we are satisfied that divisions could play a significant part in organising post-graduate medical education, in training junior staff and in the deployment of research resources without infringing on the proper interests of the universities. Indeed, we are convinced that these functions can no longer be adequately discharged by existing units and that the type of clinical organisation which we envisage is essential if post-graduate education and the training of junior staff are to be effectively organised.

SCOPE AND STRUCTURE OF A DIVISION

38. In the following paragraphs we consider the scope and structure of a division within the hospital, at area or sector level and at Regional level.

Within the Hospital

39. In the type of divisional organisation we recommend, the normal pattern will be for divisions to consist of a federation of consultancies in the same discipline within a single hospital. We gave some attention to the size of divisions and how specialties which were small in size, or represented by small numbers of staff in each hospital, could be fitted into a divisional system. There would be little difficulty in relation to the larger specialties such as medicine and surgery in which it is likely that the numbers of staff in most hospitals would be sufficient to constitute a viable division. The only problem here is whether in very large hospitals it might be better to have two divisions in the larger specialties. This would be practicable only in the largest of the teaching hospitals and we consider it would be better even in these large hospitals to adhere to single divisions in the larger specialties.

40. The basis for the formation of divisions in other specialties would depend on their nature, and on their links with other specialties. In some instances geography would be significant. Some specialties such as infectious diseases

and neurology might appropriately be placed within the medical division. On the other hand there are specialties, for example, cardiology and gastroenterology, which have strong links with both medicine and surgery. This indicates the need for a flexible system which might, for example, allow a specialty to be represented on more than one division, and perhaps ultimately to form a division on its own. Changes will not necessarily be towards forming more and more divisions. On the contrary there are instances, of which infectious diseases and tuberculosis are examples, in which it would be desirable to bring certain independent or semi-independent specialties back within the fold of one of the major specialties, whilst preserving the close liaison with the local authorities concerned in relation to prevention on an area basis. (See also paragraphs 44-45 below).

41. While this structure seems best suited to the professional activities and interests of the various disciplines, it clearly raises difficulties in relation to the clinical organisation of individual hospitals. This will be considered in more detail when we come to discuss the inter-relationship of divisions.

At Area or Sector Level

42. There are certain specialties in which it can be argued that there would be advantages in relating the clinical organisation to a geographical area rather than to an individual hospital or group of hospitals.

43. There are obvious advantages in being able to relate the provision of any service to a known population. While this might be an argument in favour of organising all specialties on a geographical basis it would not in practice be readily applicable to specialties such as medicine and general surgery which have a well-established relationship to individual hospitals. Other specialties such as ear, nose and throat surgery, mental deficiency and obstetrics can be identified as reasonably self-contained ones in which an area organisation is feasible. Obstetrics provides a good example of the advantages which would flow from this because the organisation of this discipline upon an area basis makes it possible to assess intelligently the factors which influence the perinatal mortality rate and leaves no doubt as to where the responsibility for action lies.

44. An additional factor in favour of an area organisation is that in some specialties resources from outwith the hospital service may be of considerable significance. These resources may come from general practice, from the local health authority or from the local welfare authority. Geriatrics, mental deficiency and obstetrics are good examples of this type of specialty, and it would be desirable to associate other branches of the health and welfare services with the divisional organisation in these specialties.

45. While we consider that certain specialties should for these reasons be organised on an area basis, it is important to ensure that the staff in these specialties have an adequate say in decisions which might affect their interests when these are taken in individual hospitals. For example, ear, nose and throat surgery shares with general surgery in the use of theatres, the services of anaesthetists and other common facilities. The machinery to achieve this is dealt with later in this Chapter when we consider the inter-relationship of divisions.

At Regional Level

46. In some of the smaller Regions the area covered by the divisions representing some specialties such as ear, nose and throat surgery, ophthalmology and dermatology might encompass the whole Region. This is something which would arise naturally from the local arrangements, although it would result in the division having its principal relationships with the Regional Hospital Board rather than, as would usually be the case, the Board of Management. We consider the implications of this in paragraphs 70 to 73 when we deal with clinical organisation at Regional level.

ADMINISTRATION OF A DIVISION

47. The division would be made up of an assembly of medical staff who find it convenient and useful in furthering their professional work to act in certain respects as a group. Membership of a division should be as wide as possible and should be open to all hospital medical staff, and to any general practitioners working within the division. The full membership would participate in preliminary discussions leading to the formulation of advice on policy, but there should be within the division an inner body, perhaps called an executive committee, of which the consultants would be members. This would be the decision-making body within the division and it would be in the executive committee that advice on policy would be decided. The full membership should participate in all the educational functions of the division and those activities concerned with patient care evaluation.

48. We gave serious thought to the appointment of the spokesman or leader of the division. There are some doubts about the possible implications of leadership within a division which, so far as consultant staff are concerned, is to be regarded as a gathering of equals, but we accept the need for executive officers in divisions and suggest that the leader should be known as the "chairman".

Choice and Tenure of Chairman

49. We gave prolonged consideration to the matter of selection of the chairman. The choice lies between, at the one extreme, election by his colleagues and at the other extreme, appointment by the Regional Hospital Board, with the possibility that some intermediate method could be devised.

50. If we regard the formation of divisions in the clinical specialties as a voluntary act undertaken by the staff of these divisions in order to further certain of their responsibilities and duties on a group basis, then it seems clear that they, and they alone, should determine who their spokesman should be. On the other hand, it seems inevitable that the chairman of a division would have considerable influence over the development of the hospital service and would, in fact, be more than a spokesman for his colleagues. Chairmen of divisions will occupy key positions in the two-way channels of communication between the administrative superstructure and the clinical professional groups. After careful consideration of the issues involved, we have arrived at the firm conclusion that a chairman elected by his colleagues will attract a degree and type of loyalty much greater than that to be expected by an appointed chairman and that accordingly election is ordinarily the most acceptable way of choosing a chairman of a division. In view of the extent of the influence likely to be exercised by the chairmen, divisions will doubtless take steps to ensure that

their chairmen are very carefully chosen on broadly based considerations and not, for example, exclusively by seniority. In this context "leadership is the skill to give form and expression to the feelings of the group, to represent rather than to command, to find new levels of synthesis which evoke agreement and satisfaction in the group"*.

51. However, there are three circumstances in which a departure from choice of chairman by election may be appropriate. These are:—

- (i) In certain specialties such as laboratory medicine, radiology and radiotherapy where there is custody of apparatus or responsibility for groups of specialised technical staff;
- (ii) In clinical specialties with close community relationships, of which geriatrics is a particular example;

In these two circumstances it may often be desirable for a consultant in administrative charge to continue to be appointed.

- (iii) In clinical specialties where a Regional organisation already exists under an appointed head.

In some cases the advantages to the service of a continuing and clearly designated responsibility have been obtained at the expense of rigidity in organisation, and some diminution in individual consultant autonomy. These disadvantages may be capable of resolution in a transitional period by an agreed re-organisation within the existing framework. It may, for example, be possible to identify aspects of a division's work, such as patient care evaluation, teaching or the organisation of a particular field of clinical work, which could with advantage be specifically developed under the influence of an individual consultant. This need could be met by the Regional Board, or by the division concerned, creating an appropriate additional convenership which could then be filled either by nomination or election.

52. On the question of duration of appointment, we consider that it would be better to avoid very short appointments and that they should normally run for not less than, say, three to five years. On the other hand, we did not favour indefinite appointments in clinical divisions, although in para-clinical departments the managerial requirements involved in their organisation may make desirable a degree of continuity which can be obtained only by permanent or at least long-term appointments.

Duties of Chairman

53. We did not feel able to lay down in detail the duties which might be undertaken by the chairman of a division. These will vary from one division to another, but it seems likely that divisions would delegate certain responsibilities to their chairmen to exercise on their behalf. In larger divisions with heavy responsibilities it might be that some functions such as the responsibility for organising the training of junior staff would be delegated to members of the divisions apart from the chairman. Yet again it might be found convenient for the division to ask the medical superintendent to undertake some matters on its behalf. It is important that there should be good relations between the divisions and the medical superintendent which would make this possible, and we say more about this below.

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* Sayre, W.S., (1956) Hospitals J.A.H.A., 30, 1st February 1956,50.

54. We recognise that the additional responsibilities falling on the chairman and other members of medical staff as a result of these arrangements will require them to devote time to this work. The extent of this will become clear in the light of experience, but we regard it as most important that the development of these arrangements should not be impeded because of insufficient time being made available for them.

Relations with Medical Superintendents

55. It is important to be clear about the potential relationships between divisions and the medical superintendent. The development of a divisional system would offer the medical superintendent greater opportunities to deploy his administrative skills. We strongly recommend that the divisions should look to the medical superintendent for support in relation to all their activities. This should be of benefit in both directions.

56. The exact relationship between medical superintendents and divisions is best left to each division to resolve for itself and we do not wish to go beyond a recommendation that medical superintendents should be welcomed into divisional structures. Some divisions may wish to have the medical superintendent sitting with them as a member, or as their secretary. Experience will show whether it is necessary or useful for the medical superintendent to be present at every meeting of a division.

57. Divisions will require adequate secretarial help if they are to function efficiently. Assistance will be needed in connection with minutes and papers for divisional meetings, and the extraction and preparation of information from medical records for use by clinical staff in the evaluation of their work. We consider that this assistance should be provided by staff under the control of the medical superintendent.

Relations with Professorial Units and Research Bodies

58. The relationship of professorial units to the divisional system in teaching hospitals is of crucial importance to the success of the divisional system. The resources of divisions would be seriously curtailed and their viability questionable if the clinical facilities of professorial units were not included within them. At the same time it has to be recognised that the university resources for teaching and research purposes could not belong to the divisions. We are of the opinion that professorial units should be included in divisions for all clinical purposes. This implies that a distinction must be drawn between the clinical functions of these units, and the teaching and research functions for which they are responsible to the universities. The professor would be eligible for election as chairman of the division on the same basis as any other consultant. While we appreciate that the professorial staff would frequently be eminently suitable for election as chairmen of divisions we would like to stress that this would not be an automatic choice, and we would deprecate a situation in which it was assumed that the professor would always be the chairman of a division.

59. The relationship between professorial units and divisions could be a fruitful one not only on the clinical side but also in relation to research activities. It may be true that at present almost all the resources available for research purposes belong to the universities, or are administered by them, but more money is becoming available through Regional Hospital Boards and other

non-university channels and there would be great potential value in associating professorial units with divisions for research purposes. This could be done by having a divisionsl research resources committee of which the professor might be chairman. This would make it possible for research activities throughout the division and in the professorial department to be co-ordinated, and, on occasion, integrated.

60. While recognising the special position occupied by professorial units we are anxious to see the development of a good relationship with divisions both on the clinical side and on the research side.

INTER-RELATIONSHIP OF DIVISIONS

61. In the following paragraphs we consider how the proposed divisional scheme of clinical organisation could be developed to co-ordinate policy between divisions through a committee of chairmen, the implications of the divisional system on the medical staff committee structure and the machinery to ensure that Regional Hospital Boards are given adequate informed advice about every specialty as a basis for the formulation of Regional policy.

Committee of Chairmen

62. We have already proposed that the basic administrative entity in a clinical discipline should be the consultancy and that a number of consultancies should be grouped together to form a division. Within a hospital there are matters which are of common interest to more than one discipline and it is desirable that this should be recognised in the clinical organisation. We recommend that this should be done by forming within each hospital or hospital group a committee composed basically of the chairmen of each of the divisions. This might be known as the "Committee of Chairmen". It is quite clear that where a division is contained entirely within one hospital, or one group of hospitals which function together, the chairman of that division should be a member of the Committee of Chairmen. There is greater difficulty when divisions organised on an area basis have members in a number of different hospitals. It would be unreasonable to expect the chairman of such a division to attend every meeting of every Committee of Chairmen in each of the hospitals in which his division functions, but it is nevertheless important to ensure that the discipline is represented at each of these meetings where decisions might be taken which would affect it. This difficulty could be overcome by allowing the chairman of a scattered division to nominate a member to attend for him. In such circumstances he would presumably attend the more important meetings himself and nominate one of the staff of his division who had a significant interest to attend the other meetings.

63. The Committee of Chairmen would be the body which would deal with all matters of medical policy which have implications beyond a single division. Although each division would participate in its deliberations through its chairman who would serve on the committee, it might also be desirable to have one or two members of the non-consultant staff elected by their colleagues to serve on the Committee of Chairmen. This would probably increase the effectiveness of the Committee and it would provide valuable experience for the individuals concerned. Some medical members of the Board of Management also might sometimes be invited to attend meetings of the Committee.

64. The main purpose in setting up divisions and having a Committee of Chairmen would be to further the efficiency of the hospital service. Although all members of the medical staff would be members of divisions and would have the opportunity to express their views at divisional meetings, the divisional structure would be concerned primarily with clinical and professional matters and the best use of resources for patient care. We recognise that matters arise from time to time affecting the amenities and other interests of the medical staff, and it is important that means should be available for these matters to be ventilated and brought to the notice of the Board of Management. This might be regarded as the function of a medical staff association, but we are anxious to avoid duplication and over-lapping in the channels of communication between medical staff and hospital boards. On the other hand, the authority of the Committee of Chairmen might be diminished and their advice on policy matters be less acceptable to the Board if they also concerned themselves too much with matters affecting staff interests. We have reached no firm conclusions on how these difficulties might best be resolved and we are content to leave the matter to be decided locally on the basis of experiment. It might be appropriate for the whole hospital medical staff to meet from time to time to consider matters which primarily affect their interests rather than the efficiency of the service, or, alternatively, in a large hospital the staff might wish to elect an executive committee for this purpose. In the latter event, it would be desirable that the executive committee should consult with the Committee of Chairmen to ensure that there was no conflict between advice which might be given to the Board of Management on policy, and representations which might be made to them on matters affecting the interests of the hospital medical staff.

Medical Staff Committee Systems

65. Relatively little has been written about the operation of medical staff committees within hospitals and there have been few investigations. Brown (1962)* demonstrated the variations and inadequacies in the committee systems of 20 hospital groups of which four were in Scotland. At an earlier date the Henderson Committee† noted that there were wide variations in the way in which these committees operated, and considered that the position was unsatisfactory both in relation to the staff organisation itself and the extent to which these committees were consulted by the Boards. In some instances staff committees appeared to lack vitality and there was confusion about their position in relation to medical superintendents.

66. The experience of individual members of the Working Party confirmed the considerable variation in the operation of the medical staff committee system. In most instances some parts of the committee system were found to be more effective than others and in practice handled most of the business. The structure differed from one hospital to another.

67. There was also variation in the relationships between medical staff committees and Boards of Management. In some instances Boards did not recognise medical staff committees or recognised only a part of the structure. There was also some evidence of overlap and confusion between the functions of

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* Brown, R.O.S. (1962) The Hospital, 58(1),16.

† Medical Superintendents and Medical Staff Committees. Report by a Sub-Committee of the Standing Advisory Committee on Hospital and Specialist Services. Scottish Health Services Council. H.M.S.O. 1957.

medical staff committees and medical services committees of the Boards of Management.

68. We consider that in future the medical staff committee structure should be based on the divisional organisation and should arise directly from it. The divisional structure outlined would have within each division an executive committee made up of all the consultants within the division. The Committee of Chairmen described in paragraphs 62–64 might include one or two elected representatives of the non-consultant staff, and might also on occasion be joined by some medical members of the Board of Management. We recognise the right of the Board of Management to seek whatever advice they consider appropriate, but in our view this structure should normally be adequate for the consideration of all matters of medical policy and formulation of advice to Boards.

Clinical Organisation at Regional Level

69. At Regional level there are Regional Consultants and Specialists Committees. These were intended to fulfil a dual purpose, namely to represent the interests of the medical staff in matters affecting their terms and conditions of service, and to put forward the views of the staff on matters affecting the running of the hospital and specialist services. The way in which these committees operate and the extent to which they are consulted by Hospital Boards varies from hospital to hospital and from Region to Region. To the extent that these committees are regarded as sources of medical advice to the management bodies they may overlap and conflict with the functions of the Senior Administrative Medical Officers and medical superintendents. This is discussed at some length in the Farquharson-Lang Report*.

70. It is important to consider what machinery should exist to ensure that Regional Hospital Boards are given adequate informed advice about every specialty as a basis for the formulation of Regional policy. It seems from the experience of members of the Working Party that at present Regional Hospital Boards may be more effectively served in relation to smaller specialties than in relation to the larger ones. It is easier for a Regional Board to identify a source of advice from a small specialty than from the larger ones and the latter may suffer in consequence.

71. The divisional clinical organisation should make it possible to identify sources of advice for Regional Hospital Boards. Within each hospital the chairman of the Committee of Chairmen should be able to express the considered view of the entire clinical staff on general matters of policy affecting more than one discipline. The chairmen of divisions should be in a position to express the considered views of the clinical staff in each of the disciplines. One possible exception to this may be in the case of laboratory specialties where special arrangements may be required to represent the relevant specialties.

72. It would seem proper that the chairmen of Committees of Chairmen should normally deal with their Boards of Management, but there might be occasions on which a Regional Board would find it useful to convene a meeting of the chairmen of the Committees of Chairmen from all the hospitals in their Region.

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* **Administrative Practice of Hospital Boards in Scotland. Report by a Committee of the Scottish Health Services Council. H.M.S.O. 1966 (paragraphs 233–248)**

73. It is, however, likely that Regional Boards would find greater value in being able to bring together the chairmen of divisions in any particular specialty in order to obtain advice on that specialty. This would involve a reasonably small number of people even in the larger Regions. It might prove unwieldy on occasions when a Regional Board wishes to obtain advice from a number of related divisions. It is, for example, conceivable that a Regional Board would wish to put a problem to surgeons, orthopaedic surgeons and anaesthetists. In the larger Regions it might be necessary to adopt the expedient of calling a large general meeting initially and suggesting that a smaller *ad hoc* committee be formed. Experience will show the most acceptable method of dealing with this, but we do not see it as an insuperable difficulty.

MANAGEMENT TRAINING FOR CLINICAL STAFF

74. Clinical staff are deeply involved in day-to-day management decisions and are the custodians of much of the professional information which is necessary to their administrative colleagues in planning future developments in the service. Even at the simplest level the clinician who decides to admit a patient or not to admit him is taking a management decision which involves the use of hospital resources. We have attempted to devise a system of clinical organisation which will provide the proper relationships and facilitate the exchange of information which is necessary to make the maximum use of clinical judgment and information in relation to management. If this object is to be achieved it is of fundamental importance that clinical staff receive appropriate guidance in organisation and administration.

75. In our view there are three different levels at which training of this kind should be undertaken. The first is at the undergraduate and pre-registration stage. Undergraduates should be given instruction in personal relationships as they affect the organisation of a large service, some basic information about the structure of the National Health Service and the functioning of the hospitals in which they learn and work. To some extent this is already done in courses in social medicine and in psychiatry and these could be elaborated. At house officer level it is important that the newly qualified resident taking up his first appointment, or taking up a subsequent appointment in another hospital, should be given instruction about the organisation of the hospital. The responsibility for this should fall on the medical superintendent, but it may be useful in large hospitals to supplement the medical superintendent's instruction with film or video-tape which would show new staff quickly and easily how the hospital is organised, and would give senior staff an opportunity to say a little about their own departments. This should be supplemented by a handbook. As time goes on and patient care evaluation practices become established, there will be more information to be imparted to new staff and the method of introduction would assume greater importance.

76. The next level of instruction would cover senior registrars and consultants. At this level we consider that it would be valuable to provide short courses of perhaps three days' duration devoted to the organisation and administration of the hospital service. These courses would provide an opportunity to bring together not only clinicians but medical and non-medical administrators and senior nursing staff. The amount of formal instruction given could be limited and much of the value of these courses would come from the interdisciplinary discussions which would take place. It seems important to limit such courses to a short period.

77. The third stage could be a somewhat longer course of perhaps two weeks' duration. This would be suitable for those consultants who were about to assume greater responsibilities for organisation and administration such as potential or recently appointed chairmen of divisions, but the courses would not be limited to this group and should probably also include some administrative and senior nursing staff. We return to this question of management training courses in Chapter V on Communications.

CHAPTER II

Medical Staffing

INTRODUCTION

78. Two main issues regarding medical staffing require to be examined. First is the total number of doctors available in relation to the work to be done; second, the distribution of these doctors in such a way as to provide facilities for training and responsibility appropriate to their capabilities.

AVAILABLE MEDICAL MAN-POWER

79. From the available evidence it is clear that there can be no expectation of any substantial increase in output from medical schools for the next ten years. We also recognise the problem of the emigration of doctors, the trend of which is impossible to estimate but for which a considerable allowance must currently be made. We accept that the present number of doctors is inadequate to meet present demand under prevailing circumstances. There are several identifiable factors which accentuate the shortage but we are aware that the problem also exists in many countries, including those whose ratio of doctors to total population is higher than our own. We must, therefore, assume that in addition to the specific and predictable effects of an increasing population, a rising proportion of elderly people and the emergence of new techniques, of which haemodialysis and exfoliative cytology are examples, there will be other pressures arising from the expectations inherent in a generally rising standard of living. Whatever contribution any increase in the output of medical graduates may eventually make, we must expect a continuing situation in which the demand for doctors' services will always tend to outstrip the supply. In such a situation it is axiomatic that doctors should be relieved as far as possible of non-medical duties and that they should be provided with all necessary technical and secretarial assistance. No matter what assistance may be given, however, there will remain major problems of priorities for medical time which are outside our present remit. The utilisation of available medical man-power to the maximum extent is examined later in the Report.

STAFFING STRUCTURE

80. The medical staffing structure in the hospital service has been extensively investigated by committees, notably Spens*, Platt† and Wright‡. All these reports have shaped the present staffing structure of hospitals, but it is significant that although the Wright Report was accepted by the Secretary of State as recently as 1964 the need exists for a further examination.

81. During recent years, although the number of doctors in general practice has decreased slightly, the number in the hospital service has increased rapidly.

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* Remuneration of Consultants and Specialists. Report of the Inter-Departmental Committee. H.M.S.O. 1948.

† op. cit.

‡ Medical Staffing Structure in Scottish Hospitals. Report of a Committee appointed by the Secretary of State for Scotland. H.M.S.O. 1964.

In Scotland, during the thirteen years between 1953 and 1966 the main changes in the numbers of hospital staff have been as shown in the following table:

GRADE	NUMBER IN POST (including honorary appointments)		% change 1953 to 1966
	1953	1966	
Consultant	809	1332	+ 65%
Senior Hospital Medical Officer	316	121	− 62%
*Medical Assistant	—	121	N.A.
Registrar	207	702	+ 239%
Junior Hospital Medical Officer	182	19	− 90%
Senior House Officer	170	437	+ 157%
House Officer	564	493	− 13%

* Created in 1964

In summary, the number of senior staff (consultants and senior hospital medical officers) has increased by 30% and the number of junior staff (medical assistants and below) has increased by 59%.

82. If hospital practice were static it would be relatively easy within a given establishment of hospital doctors to identify various levels of responsibility and thereafter create a staffing structure to accord specifically with service needs. But hospital practice is not static and although service needs are of the first importance the continued achievement of high standards in a developing field demands that training needs must be recognised and in some circumstances accorded precedence. Most new advances are translated into clinical practice in hospitals which, as the meeting place of various disciplines, become the focal point for professional evaluation. Hospitals must train not only their own staff but also those whose careers lie in other forms of medical work such as general practice. This latter group will make a contribution to the staffing needs of hospitals perhaps modified by the special demands of the training provisions appropriate to their future field of practice.

83. The staffing structure must therefore take regard both of service needs and of varying training needs. In addition it must achieve some equilibrium between the numbers of staff in training and of staff in permanent posts, in such a way that the skill and experience gained by young doctors find adequate outlets in their subsequent careers in the hospital or elsewhere in the National Health Service. It is in this failure to find an equilibrium that the present staffing structure is obviously unsatisfactory, producing a situation requiring urgent attention in the intermediate grades. Immediate short-term measures are required to meet this, without prejudicing the efforts which will have to be directed towards a long-term solution.

CONSULTANT RESPONSIBILITY

84. While we accept the general principle of consultant responsibility, we envisage that this principle may require to be re-examined in the future. For example, if in years to come a specialist register is developed in this country,

we may have to foresee the situation of the registered specialist working in hospital who does not hold a consultant appointment but who may nevertheless be deemed suitable for independent clinical responsibility. At present, however, within his ultimate responsibility the consultant delegates work and clinical decision to his supporting staff in accordance with their individual capabilities, experience and training needs.

85. The definition of consultant responsibility varies considerably. In the intensive therapy area, the consultant is involved hour by hour; on the other hand, in the long-stay geriatric unit, where the day-to-day care of the patients is carried out by others, the consultant maintains ultimate responsibility even although he is visiting only once a week.

86. The doctrine of consultant responsibility extends not only to in-patients but also to out-patients. There are wide variations in clinical practice in out-patient departments and in some hospitals new out-patients are seen by a registrar and not by a consultant. We would normally expect the consultant to see new out-patients referred by general practitioners for a specialist opinion, but he may delegate specific tasks. On the other hand, some work at follow-up clinics probably uses consultant time unnecessarily. There is a need for a study of out-patient clinical practice.

SUPPORTING STAFF

87. Maintenance of the present level of consultant staffing and of the rate of growth which has obtained in the last few years requires less than half of the registrars currently working in hospital. For the rest, only in general practice does there exist in the National Health Service any post carrying full clinical responsibility. The unattractiveness of this situation for British graduates may largely explain their rate of emigration and the need to rely for almost one quarter of the junior hospital staff on doctors from overseas whose primary purpose in coming here is to obtain further training and experience.

88. It is helpful to realise that the problem is not new. It has always been the case in this country and elsewhere that the apprenticeship leading to full responsibility in a specialty required about one quarter of the post-graduate professional life-time; and that, except in times of expansion, there have always been about three potential candidates for every established senior post. It should also be said that the choice among those three was a matter not only of merit but also of chance, as represented by age at the time of vacancy, coincident technical and building developments and so on. The unplaced trainees used to find scope for their specialist skills by transferring, for example, to the colonial service or into a suitable general practice.

89. In recent years, new factors have been operating. The needs of the colonial and military services are now so reduced that they are no longer a significant outlet. General practice also has ceased to be an acceptable outlet for various reasons. Anyone with specialist skills moving out of hospital practice can reasonably expect that these skills will still be employed and that they will be maintained and developed by adequate contact with an appropriate hospital department. Since the inception of the National Health Service, the type and volume of work demanded of general practitioners has made both of these conditions practically impossible to fulfil. The obverse situation is also relevant. Established general practitioners will seek to recruit as colleagues those whose

background fits them best for the conditions which actually obtain. Any extended experience of hospital medicine constitutes rather a negative recommendation to those controlling the entry to general practice. This is one explanation for the virtual cessation of recruitment to family doctoring of those young doctors with extended post-graduate experience.

TRAINING GRADES

90. The normal pattern of progression leading to a consultant post in the hospital service is through the grades of house officer, senior house officer, registrar and senior registrar. The number of consultant posts available is controlled centrally and the number of senior registrar posts is related to the number of potential vacancies in the consultant grade as explained below. There is not, at present, any similarly calculated control over the numbers in the limited tenure grades below senior registrar level.

Senior Registrars

91. In the past, control of senior registrar numbers was not sufficiently exercised and this led to the "time-expired" senior registrar problem. In recent years, the Scottish Home and Health Department in reviewing the senior registrar establishment annually have calculated consultant needs over the following five years taking into account increases in establishment recommended in the Wright Report, and the expected retirements and other losses. Partly as a result of this control the "time-expired" senior registrar problem is now diminishing, although it is still not resolved. We recognise the difficulties created for universities by the inclusion of honorary senior registrar contracts in the calculations and the restriction on their ability to obtain this grading for all appropriate full-time clinical teaching staff.

Registrars

92. There is no doubt that the junior hospital doctor in this country views his future with anxiety and this has affected his morale. The discrepancy between the number of registrars and the number of potential consultant vacancies has not in the past been pointed out clearly enough to the young doctor. There is grave dissatisfaction with the career structure and no easy solution is available. The effect of the award recommended by the Review Body in their Seventh Report remains to be seen, but the reasons are not entirely monetary.

93. A survey was carried out into the subsequent career of all those holding a registrar post in the hospital service in Scotland in 1957. This showed that approximately 40 per cent of the registrars had become consultants by 1965 and about 10 per cent had emigrated. The eventual number of these registrars becoming consultants will probably be nearer 50 per cent but in 1957 the the number of registrars was much lower than it is today.

94. The bottleneck at entry into the senior registrar grade is the basis of much dissatisfaction, especially in surgery. Once the young surgeon has been a registrar for three or four years and has probably obtained his fellowship, he is more or less committed to a specialist career, whereas in medicine there is still opportunity to move into other fields, including general practice. This was borne out by our registrar survey.

ASSESSMENT OF IMBALANCE BETWEEN TRAINING AND STAFFING NEEDS

95. We were aware of the need for some quantitative assessment of the discrepancy between the large pool of specialised skill required for intermediate work in the hospital and the relatively small pool required for consultant replacement and expansion. Further examination of statistics has shown the wide variation between specialties in the ratio of registrars to senior registrars. There are also Regional differences but the significance of these variations is open to question.

96. The following figures show the ratio of registrars in post at 30th September, 1965, to the senior registrar establishment (including honorary posts in both grades). The ratio for the Regions in Scotland for all specialties is as follows:

North-Eastern	1.5:1
Eastern	1.4:1
South-Eastern	1.6:1
Western	3.1:1
Scotland	2.2:1
(England and Wales	3.1:1)

97. These ratios will have changed slightly at 30th September, 1966 since preliminary figures show that there has been a further increase in the registrar establishment of about 5 per cent.

98. The specialty variations are also quite diverse as the following examples show:

General Medicine

North-Eastern	3.8:1
Eastern	3.5:1
South-Eastern	1.8:1
Western	4.4:1
Scotland	3.4:1
(England and Wales	4.1:1)

Surgery (including neurosurgery, plastic surgery, thoracic surgery, urology and surgical paediatrics)

North-Eastern	2.7:1
Eastern	1.4:1
South-Eastern	1.4:1
Western	2.9:1
Scotland	2.2:1
(England and Wales excl. surgical paediatrics	3.5:1)

Orthopaedic Surgery

North-Eastern	0.5:1
Eastern	1.5:1
South-Eastern	2.5:1
Western	5.6:1
Scotland	3.2:1
(England and Wales	5.0:1)

Anaesthetics

North-Eastern	3.0:1
Eastern	2.0:1
South-Eastern	3.0:1
Western	3.4:1
Scotland	3.0:1
(England and Wales	3.8:1)

Obstetrics and Gynaecology

North-Eastern	0.8:1
Eastern	1.3:1
South-Eastern	1.8:1
Western	3.3:1
Scotland	2.2:1
(England and Wales	5.0:1)

99. These figures show clearly the extent and variation, both Regionally and by specialties, of the discrepancy between service and training needs expressed in gross terms.* The net discrepancy will be discussed later in paragraph 107.

Possible Solutions

LONG-TERM

100. Within the framework of the existing work patterns of the Health Service there exist two means whereby equilibrium between staff-in-post and staff-in-training can be achieved.

101. These are, first, the adoption of a hierarchical system, such as obtains in much of continental Europe; and second, a large increase in the consultant establishment with the extension of consultant work downwards to include much of what is now done by junior staff.

102. A hierarchical system could take several forms but in principle would consist of a top directorate and several grades of specialist working to the instructions of the top directorate in defined fields. It implies a system of promotion through these grades, which would be of permanent tenure, to the top and is not strictly compatible with the present selection of consultants through the senior registrar system. Further study would be required to determine the exact implications for each specialty.

103. An enlargement of the consultant establishment, and the elimination of the registrar surplus by a downward extension of consultant responsibility, is a hitherto untried concept. There are initial attractions in this proposition, but there are also great disadvantages. If the present level of consultant education and experience is correct, it would be wasteful to employ highly trained and selected man-power for work that can be done equally efficiently by doctors of much less experience. The move would be a costly one to make at a time of rapid medical and technological advance since it would pre-empt a high proportion of development money for downward extension of consultant work.

104. It is difficult to avoid the conclusion that neither of these two means of achieving staffing equilibrium is, on its own, acceptable. It is, therefore, necessary to look at new work patterns for a solution.

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* In comparing ratios in Scotland with those in England and Wales it should be borne in mind that about 30 per cent of registrars in Scotland and 48 per cent in England and Wales were born outside the United Kingdom and the Republic of Ireland.

105. We are convinced that the paramount requirement is for a re-orientation of both intermediate level hospital work and general practice so that there is once again common ground between them, both in the scientific basis of their work and in the freedom of the individual doctor to develop particular interests in the light of his aptitudes and of the needs of the community. Two results would follow which would achieve staffing equilibrium; these are, first, that general practice would attract and provide proper scope for doctors with much more hospital experience than at present, and, second, that suitably experienced and qualified doctors could work part-time in general practice and continue a specialist career in hospital at a suitable level of responsibility. It might be that our medical man-power would prove to be a good deal nearer adequacy than is thought at present.

IMMEDIATE

106. It is clear that the long-term solution propounded in paragraph 105 cannot become effective for some years. However, continuous relief is to be expected from the progressive build-up in consultant strength which was recommended by the Wright Report and which must continue, within the limitations imposed by the availability of the necessary resources, if community need and the demands arising from medical advances are to be met. In addition, there is a need to initiate the following changes with the minimum of delay:

- (a) planning of the registrar establishment;
- (b) the setting up of Regional training advisory committees;
- (c) the provision of career guidance on an organised basis;
- (d) the expansion of the medical assistant grade.

(a) *Registrar Establishment*

107. We recommend a planned registrar establishment which should be related to the career prospects in the National Health Service. In considering the planning of a registrar establishment there are several distinct elements. The first is to provide for maintenance of the senior registrar establishment. The annual number required at present for this purpose is 75. We must then assume an average period of tenure of the registrar grade. For the purposes of the present exercise it is probably sufficient to take this as three years although, when actual calculations of a registrar establishment are made, it would be necessary to examine each specialty as there may be variations in the appropriate length of tenure. Therefore, on a basis of a three-year tenure 225 registrars would be required to maintain the senior registrar establishment. This does not allow for any competitive element and the allowance to be made for this is open to argument. If there were to be no competitive element then we would be selecting consultants at a very early stage. Some allowance would also need to be made for natural wastage, training for other forms of practice and possible emigration and it might be reasonable to allow, say, thirty to fifty per cent for competition and these movements. Further allowances would need to be made for training opportunities for overseas graduates on the assumption that the majority would return home in due course and would not be competing for senior registrar posts to a significant degree. At 30th September, 1966, there were 214 registrars in post born outwith the United Kingdom and the Republic of Ireland. This gives in total a registrar establishment of

507 if an allowance of thirty per cent is made for competition, etc. (551 if an allowance of fifty per cent is made) in comparison with the 702 registrars in post on that date. This excess represents the service need which should be met other than by registrars.

108. *General Training Grade Establishment.* There have been suggestions that a new "general training grade" might be created, for example, by combining the present registrar and senior house officer grades. The implications for staff numbers of such an arrangement have been briefly considered and are set out below. A tenure of four years has been assumed to cover various possibilities including time for placings, seeking outlets, etc. The composition of this grade would differ from the registrar grade, as contained within it there would be, in addition to trainees for consultant posts and overseas graduates, a larger number training for general practice. A "general training grade" establishment for the training needs as opposed to the service needs could be calculated along the same lines as that shown above in paragraph 107 for a registrar establishment. On an annual basis there would be the following requirements:

(a) 75 per year to maintain the senior registrar establishment;

(b) 100 per year to provide for the training of overseas graduates (400 senior house officers and registrars from overseas at present in the service).

109. Approximately 100 principals are required each year to maintain the general medical services in Scotland under current conditions of practice and on the assumption that a general practitioner might spend a total of three years' post-graduate training in hospital (one year in a pre-registration house officer post and two years in the general training grade) this would mean a total of 200 individuals within the total establishment would be required.

110. The total establishment for training needs would be therefore (4 × 75) + (4 × 100) + 200 = 900. The actual numbers in post at 30th September 1966 (registrars plus senior house officers) were 1139. This excess of 239 does not take into account movement to England and Wales, movement into other forms of practice, emigration and other losses.

(b) *Regional Training Advisory Committees*

111. In order to co-ordinate progressive training arrangements for the grades of registrar and below, we recommend that Regional Hospital Boards should set up Regional training advisory committees. The functions of these committees, which would be complementary to the Regional Advisory Committees on Senior Registrars, should include:

(a) the oversight of the training arrangements in the Region including schemes specially designed to meet the needs of overseas graduates;

(b) the regular review of all appointments in the training grades and advising whether appointments should be continued.

In view of our later recommendations in paragraph 140 regarding service in a peripheral hospital as the normal prerequisite for senior registrar appointment, Regional training advisory committees, on whatever basis they are constituted, will require to have representation appropriate to the Region from all kinds of hospitals. For example, in the North-Eastern Region there would be little, if any, representation from peripheral hospitals, whereas in the Western Region the representation would be very considerable.

(c) *Career Guidance*

112. We recommend, as a matter of urgency, that career guidance should be made available to all young doctors and senior medical students in order that they may be aware of their true prospects at every stage in their careers. An essential feature of any system would be the nomination of senior doctors, within each hospital or division, who would be available to give advice and who would be supplied with the necessary career information.

(d) *Medical Assistant Grade Expansion*

113. The excess referred to in paragraph 107 represents the additional staff required to carry out the remainder of intermediate grade hospital work. This work is of a specialised nature, often predominantly technical, and ordinarily within the doctor's competence after a few years of post-graduate study and experience. The medical assistant grade was designed for work of this nature.

114. It may be that the security of tenure offered by the new grade will attract an adequate number of recruits but this must remain uncertain until much more experience has been gained. The attractiveness of the terms of service including the salary also remains to be seen. So far as the immediate situation is concerned, two reservations may appropriately be voiced. First, a majority of the registrars currently in post are likely to have remained in the hospital service in the expectation of attaining a post carrying full responsibility. A career of permanently limited responsibility may have been from the start a more realistic possibility, but this fact has had no general recognition until recently and its acceptance is still far from complete. Second, there is at least a possibility that the conversion of any large number of registrar posts to medical assistantships would, within a few years, significantly alter the effective level of supervision to which they were subjected. A situation would then exist in which specialist responsibility was being carried in a way inconsistent with the present understanding of medical assistant duties.

115. A consequence of the planning of registrar numbers recommended in paragraph 107 will be that there will remain intermediate grade work which cannot be met by any existing grade of doctor other than the medical assistant. We therefore find an expansion of this grade necessary. This must be subject to the continued scrutiny of new posts, both Regionally and centrally and to the proviso that the other changes both short and long-term outlined above should proceed *pari passu*.

NEED FOR CONTINUING ASSESSMENT

116. The need for remedial measures is urgent and the situation should be kept under continuous review. If the integration of hospital and general practice proves effective (and we regard this as a key recommendation) and if the existing concept of medical assistant work proves to be realistic and capable of providing a satisfactory career, no major problem will remain. There is, however, the possibility that intermediate level work will continue to expand

and will prove incapable of being performed by existing grades within existing definitions of responsibility. In that case, a move to a system of delegated responsibility within specialties may become inevitable.

UTILISATION OF EXISTING MAN-POWER

117. We are neither persuaded that all consultants are fully occupied nor that none is overtaxed; our impression is that more are overworked than underworked. Objective evidence in this field, however, is difficult to obtain and decisions on increases in consultant establishment tend to be made in a somewhat empirical way. Work study in the medical field has its own special difficulties but some investigations are required since there is likely to be a continuing demand for increases in consultant establishment. Accepted means of assessing work-load would be invaluable in reaching fair decisions on priorities.

118. We recognise that all indices of work-load are subject to considerable reservations either when used separately or in combination. The following are the indices currently available in estimating the work-load of a consultant:

(a) *Number of beds.* This is not a reliable index by itself and would not be applicable under a divisional system.

(b) *Activity indices.* These include percentage occupancy, duration of stay, turn-over interval and patients discharged per available bed. We are aware that it is unwise to accept these indices at face value, but they do offer some objective criteria of activity within a unit. This activity, however, cannot necessarily be related to clinical success or good practice.

(c) *New out-patient attendances.* This should reflect to a large extent a load falling directly on the consultant, but, as we have already mentioned in paragraph 86, all new out-patients may not in fact be seen by a consultant. Total out-patient attendances are not a satisfactory index since the practice at follow-up clinics is so variable.

(d) *Frequencies of days on call.* This is especially important in small units where consultants are frequently on call.

(e) *Domiciliary visits.* Although there is wide variation in practioe, the number of domiciliary visits measure a demand upon consultant time.

(f) *Teaching commitments.* These commitments, which include acting as examiners, are not confined to teaching hospitals. Undergraduates attend some district hospitals and this tendency is likely to increase. Post-graduate teaching is now a feature of some district hospitals involving post-graduates studying for higher examinations, general practitioners and junior staff; there is also a commitment in nurse teaching.

(g) *Administrative activities.* These include attendance at Board meetings, committees, working parties, etc. Such activities may take up a significant proportion of senior consultants' time.

119. Measurements (a) to (e) above relate mainly to the clinical field. In addition they concern comparisons between consultants working in the same type of hospital and in the same type of unit. It will obviously be a matter of great difficulty to determine the loading to give to each individual item

in the total assessment of consultant time. Comparisons in the laboratory and supporting specialties such as anaesthetics and radiology may follow relatively easier patterns although there will still be difficulties. Further investigation of methods of measuring work-load of all grades of medical staff in hospitals is required.

SCOPE FOR ECONOMY IN THE USE OF DOCTORS' TIME

120. We have already pointed out in paragraph 79 that, if the most effective use is to be made of scarce medical man-power, its use must be concentrated on tasks which are appropriate to its training and specialised skills.

121. A great contribution could be made to the efficiency of the service by the provision of adequate secretarial assistance. The effects of the existing inadequate provision can be recognised by the often substantial delays which occur in sending information to general practitioners; these may result in unnecessary prolongation of absence from work and delays in instituting treatment. The availability to the consultant of a personal secretary is of the greatest benefit in permitting maximum clinical activity. Typing pools and tape machines cannot replace an efficient personal secretary who is able to organise a consultant's time and protect him from unnecessary calls and commitments. We have already referred in paragraph 57 to the need for secretarial assistance at divisional level.

122. We recommend that the provision in adequate numbers of properly trained secretarial staff should be the subject of urgent attention. We are satisfied not only that there is a need for secretarial staff of this kind, who will require training and experience, but also that these posts should be made attractive to persons of ability and that they should have prospects of advancement within the clinical sphere.

123. Full, accurate and legible records are indispensable tools of their work for clinical staffs of hospitals. They are also invaluable for clinical and statistical research. Unhappily at present the value of clinical records is too often seriously limited for all these purposes because, especially for in-patients, they often have to be written by heavily worked junior hospital doctors. We recommend that urgent consideration be given to the provision of sufficient clerical help, human and mechanical, at ward level to enable all hospital clinical records, out-patient and in-patient, to be typed and expertly collated and maintained.

124. The provision of reports by medical and psychiatric social workers can be of great value to consultants. These workers are in short supply, and their number should be increased. We note the use of health visitors in this field in some areas and we consider that this kind of co-operative effort should be encouraged and extended.

125. Especially in peripheral areas a great deal of consultant time can be taken up with travelling. Regional Hospital Boards should try further to rationalise consultant contracts in order to prevent unnecessary dispersal over several hospitals. Peripheral out-patient clinics provide a useful service and the trend towards health centres seems likely to accelerate the demand for such clinics. However, there must always be careful appraisal of the frequency of these clinics, and indeed of the need for them. There is insufficient medical consultant man-power to provide under-utilised out-patient services. Another

factor to be borne in mind is that consultants in some specialties are relatively of less value when separated from central diagnostic aids. The convenience to the patient and the benefit to the service as a whole must be measured against the cost in terms of consultant time.

126. The geographical location of hospital beds for private patients can also in some circumstances pose difficulties for a consultant. Where possible these beds and appropriate out-patient facilities should be in his main centre.

127. Whatever developments take place in the diagnostic field there is sure to be an increasing demand for staff and this demand cannot be met from within the medical man-power pool available. There is an urgent need for the greater use of non-medical staff, especially in laboratories and for procedures requiring technical control only. Such staff will also be in short supply but may be more readily available than doctors.

ADDITIONAL SOURCES OF MAN-POWER

GENERAL PRACTITIONERS IN THE HOSPITAL SERVICE

128. As we have pointed out in earlier paragraphs, we see, as an alternative to the full-time medical assistant, appointments giving part-time assistance in hospital by doctors also in general practice. At present a considerable number of general practitioners work in hospitals. Many will in future be employed part-time in the medical assistant grade although, in some cases and especially in remote areas, general practitioners who have the requisite experience and qualifications will be, as now, part-time consultants. For general practitioners working in remote areas as part-time medical assistants there is need for some re-definition of the requirement of consultant supervision to allow for more clinical responsibility and decision.

129. It has been said that family doctors are at present under so much strain that it is quite impracticable for them to be considered as a further source of aid to the hospital service. This may be largely true, although it appeared in evidence that if a general practitioner so organises his practice he will find the time to work in hospital because of the attractions of practice there.

130. The financial implications of the general practitioner working in the hospital will need to be looked at carefully. At the moment there would seem to be a positive disincentive for a general practitioner to undertake sessional work either on the basis of a contract under section 10(b) of the Terms and Conditions of Service of Hospital Medical and Dental Staff (Scotland), or as a part-time medical assistant. These difficulties must be resolved however intractable they may seem.

JOINT APPOINTMENTS BETWEEN THE HOSPITAL AND LOCAL AUTHORITY SERVICES

131. We also consider that there is scope for joint appointments between the hospital and local authority services. Local authority medical officers engaged in specialist preventive duties with, for example, children, old people and those suffering from mental disorder, will be able to develop their skills to the full only if they are closely associated with the appropriate clinical staff in the hospital service. Although we appreciate that this may be difficult owing to the present administrative structure of the National Health Service, we

recommend that as a means of securing this close association the possibilities of joint appointments involving local health authority medical staff should be explored, particularly perhaps in the field of paediatrics, geriatrics, chest medicine, mental illness and mental deficiency.

WOMEN DOCTORS EMPLOYED PART-TIME

132. This source of additional staff for the hospital service is not fully utilised although there has lately been a move by the central authorities to encourage married women with medical qualifications to re-train for general practice or hospital work. Hospital service is likely to be more attractive, especially in those specialties which do not involve emergencies. There has been little incentive in the past for the hospital service to employ married women, but the situation is now very different, and requires a change in outlook on the part of the hospitals. We appreciate that families with their inflexible holiday arrangements and possible sickness difficulties take first place. There are also financial considerations, especially those involving income tax. Although we think that the tax problem is worthy of consideration by the appropriate authorities, we appreciate that the difficulties involved in the employment of married women are not peculiar to medicine.

RETIRED DOCTORS

133. The most valuable role for the retired consultant will be as a locum. We do not consider that retired consultants should be encouraged to stay on, especially in the more exacting clinical specialties, unless in very exceptional circumstances.

TEACHING AND NON-TEACHING HOSPITALS

134. One theme which recurs in any consideration of hospital medical staffing in Scotland is that of the conflicting interests of the teaching hospitals and the non-teaching hospitals, particularly the district general hospitals.

135. There are differences and similarities between teaching and district hospitals. So far as their normal service functions are concerned there is a difference only in that Regional specialties are usually either within teaching hospitals or closely associated with them. The teaching hospitals, in addition, have a research and development function. From the teaching aspect we consider that the district hospital must be increasingly involved in view of the wealth of clinical material available and the fact that this material is unselected and therefore representative of what the average consultant is going to meet.

136. Pressures have arisen in the past, and are tending to increase, reducing in some ways the status of the non-teaching hospital. An investigation which we made of the expansion of junior staff (registrars and below) in the Western Region between 1955 and 1965 showed that, although developments in the periphery had been uneven, the overall expansion in peripheral groups amounted to only 27 per cent against 47 per cent for the Glasgow groups which include the main teaching hospitals. The Wright Report accentuated the staffing differences between the two types of hospital by recommending that in the teaching hospitals staffing levels should be from 50 to 100 per cent higher

than in the non-teaching hospitals. We believe that the recently observed rate of expansion of junior staffing in the teaching hospitals has hindered the appropriate growth of junior staffing at the periphery.

137. In the present situation the demands of neither the professorial and other teaching units nor the district hospitals can be completely met and it is essential that whatever resources are available should be distributed equitably.

138. The withdrawal of the senior registrar to the teaching hospitals has led to registrar recruitment difficulties in the periphery because of the natural reluctance of registrars to leave the teaching hospital orbit where the chances of becoming a senior registrar are very much greater. Registrar staffing in the periphery is now becoming increasingly difficult and particularly in specialties such as ear, nose and throat surgery where even the central hospitals are beginning to have difficulties. So far as the staffing difficulties of the district general hospitals are concerned, one apparently straightforward solution would be to rely on medical assistants, part-time general practitioners and pre-registration house officers as supporting staff. We find ourselves unable to accept this. The absence of active junior staff in training for a specialist career would lead to a reduction in the status of the district hospital.

139. We have been much exercised by the old-standing controversy over the value, in the training of registrars, of a period of time spent in a peripheral hospital. It can be represented that, as schemes of organised rotation become the normal training pattern, there should be included in them one year's experience away from the teaching centre. In favour of this, it is contended that there is a worthwhile difference in the amount and type of responsibility carried, and that all registrars should have first-hand knowledge of work in a district general hospital since it is there that the majority of them will eventually practise if they become consultants. The arguments against such enforced rotation are that teaching hospitals in Scotland function also as district general hospitals and that the practical experience available is therefore comparable in both; that the difficulties in housing and schooling will remain severe for the foreseeable future and would be a major disincentive to recruitment, and that the service commitment at the periphery is too dominant.

140. We are anxious to promote the best possible status for district general hospitals, and to see high standards of work uniformly sought after throughout the country. We know that the presence in peripheral hospitals of registrars or senior house officers under training would contribute significantly to both these aims, and that there is therefore much to be said for our recommending that such placement should be an integral part of every rotational training programme. We are unwilling, however, simply to repeat a recommendation that has been made many times in the past with little effect, and which concerns educational bodies as much as it concerns the Health Service. We therefore suggest that normally an essential criterion for appointment to a senior registrar post should be a year spent as a senior house officer or registrar in a non-teaching hospital. There might be difficulty in certain specialties where specialist training begins even now at senior house officer stage, e.g. radiology. We also recognise that the application of this criterion to all appointments of university and research staff with honorary senior registrar grading may not be practicable but we would hope that the authorities concerned would encourage as wide an application as circumstances will allow. It is felt that such a requirement

would not impose such restrictive conditions as a compulsory year in a non-teaching hospital as registrar. The young doctor could choose both the hospital and the timing of his peripheral service. As a corollary to this there would, of course, be the need for adequate married accommodation in peripheral hospitals. It would be essential that these posts should have a training content acceptable to the Regional training advisory committees and they should be part of a recognised training scheme.

CHAPTER III

Alternatives To Traditional Systems Of Hospital Care

INTRODUCTION

141. In this Chapter we consider the possibilities which exist for economising in the use of hospital resources by the adoption of non-traditional systems of in-patient care. As our point of departure, we have taken traditional care to mean the pattern of hospital care which has applied generally throughout the country since 1948. So far as in-patients are concerned this has been based on separate medical "firms" and the retention of patients in the same ward units at all stages of illness. Within recent years hospital care has tended to extend to follow-up reviews of patients. The separation of hospital and community care is now less clearly defined and the services are over-lapping and merging. To some extent this indicates progress in the direction of unified patient care.

PLANNED ADMISSION TO HOSPITAL

142. Among the suggestions for increasing flexibility of bed usage by hospital in-patients is the total separation of emergency from waiting list cases. This would allow the allocation of a number of beds for the routine admission, investigation and treatment of patients, and the time of their admission and the length of their likely stay in hospital could be planned in advance. It would supersede the existing practice of each "firm" or consultant reserving certain beds for the admission of emergency cases during their take-in period which is probably wasteful. A proposition of this kind can only be feasible if the size of the specialist department is sufficiently large and provided the divisional system is put into operation. This is probably one aspect of hospital activity which can be studied by operational research involving mathematical techniques and we are glad to note that a study along these lines is to be initiated by the Scottish Home and Health Department. Further investigations which are required into other aspects of this subject are dealt with in Chapter IV, paragraph 201(a).

143. Patients who are admitted on an elective basis should reach hospital only after all investigations and treatments which can reasonably be carried out on an out-patient basis have been completed Similarly, the hospital organisation must be designed to ensure that any additional investigations and treatment are started as soon after admission as practicable. There must be an effective organisation which ensures that supporting services such as laboratories and radio-diagnosis are adequate to meet these needs promptly.

144. The routine use of a range of standard investigations for all those attending hospital, and for those with certain provisional diagnoses, has yet to be fully evaluated, but it appears on the basis of experience in the United States

of America that this method may shorten the patient's stay in hospital. This approach will mean the performance of some additional tests, but staff time in laboratories can be conserved by the use of auto-analysers and it seems likely that data processing can be used to improve the presentation of records and make them more meaningful. Although it is unlikely that bacteriological, radiological and haematological investigations are capable of being fully automated, partial automation is likely to make these procedures more widely applicable. We recommend that the advantages and disadvantages of the use of these multiple routine investigation techniques should be examined.

DEPLOYMENT OF BEDS WITHIN THE HOSPITAL AND FACTORS INFLUENCING PATIENT GROUPING

145. With the increasing complexity of hospital care it is essential, if the most efficient use is to be made of the limited resources available, that these resources should be deployed in a way which has regard to the different clinical requirements of patients. Most patients under treatment in acute general hospitals will, as at present, remain for their whole stay in the same ward area and will be treated by the same medical and nursing staff. However, certain patients may be moved to other treatment areas, such as intensive therapy areas, to receive special treatment and nursing care. Others will move, if our recommendations are accepted, to "pre-discharge" units before their return home. Under this system the patient will benefit in that skilled nursing will be concentrated in the acute areas where it is most needed. Under such arrangements, it is important that patients should be admitted to the unit most appropriate to their condition, that they receive the right kind of attention promptly when they get there and that, if they do need to be moved, this should be done without unnecessary delay.

146. The adoption of such a system of selective patient grouping implies flexibility in the use of beds by different consultants, and in a large hospital by many consultants. Clearly it would be facilitated by the adoption of the divisional system of clinical organisation which we have recommended in Chapter I of our Report. It would have implications for the patient, for whom it is important that a satisfactory personal relationship with the doctor is retained; for the consultant, who would be responsible for patients in different locations in the hospital; and for junior medical staff and nursing staff who would work for a number of consultants. There is need for further study to evaluate the effect of the introduction of selective patient grouping in different types of hospitals and we return to this in paragraph 201(a)–(c) of Chapter IV.

147. We consider that distances between patient areas are an important factor in hospital organisation and we recommend that full consideration be given to this point by those concerned with hospital planning.

ACUTE BEDS

148. In the following paragraphs we consider three categories of acute beds, namely routine acute care beds, including intensive nursing care beds; intensive therapy beds; and short-stay beds. We sub-divide the last into overnight and observation beds, and five-day beds.

Routine Acute Care Beds, including Intensive Nursing Care Beds

149. These beds are used for routine specialist care and nursing attention

and for investigation and treatment, including psychiatric and geriatric assessment. They represent the majority of beds which are in use in non-psychiatric hospitals to-day and will continue in future to form the greater part of the hospital accommodation.

150. The design of modern acute hospital wards incorporates an intensive nursing care area. In acute wards a proportion of patients make heavy demands on the nursing services for at least part of their stay in hospital and many require much attention by day and by night. This can be given more efficiently if these patients are grouped together in a specially planned area rather than scattered in ones and twos over a very large ward floor. This area is designed to meet a nursing need and it is functionally distinct from the intensive therapy area to which we refer in the following paragraph. The provision required for an intensive nursing care unit should be about one in five acute beds. Further experience of the operation of intensive nursing care areas will be gained when the Falkirk ward unit has been studied. We support the policy that an intensive nursing care area will form part of the design of all new acute wards and we consider it desirable that such areas should be introduced as soon as practicable into acute wards of existing general hospitals.

Intensive Therapy Beds

151. These include the beds in post-anaesthetic recovery areas associated with the operating theatres; the beds in resuscitation areas in the accident and emergency departments which are used for the resuscitation of seriously ill patients immediately they are brought to the hospital suffering from traumatic or non-traumatic conditions; and the beds in intensive therapy units themselves. Intensive therapy units are now being established is some of the existing major hospitals and are being planned for all new major acute hospitals. The criterion for admission to such a unit is the total dependence of the patient on medical and nursing staff, that is, the patient is critically ill, requires constant medical and nursing attention and the use of highly specialised equipment. The number of beds required in an intensive therapy unit is estimated at 1 to 2 per cent of the total number of acute beds in the hospital. We support the policy that the intensive therapy areas described should be included in all major general hospital developments.

Short-Stay Beds

OVERNIGHT AND OBSERVATION BEDS

152. These are beds set aside for use by patients with a variety of conditions requiring brief observation, or time to recover from minor surgical procedures requiring general anaesthesia, or minor injuries. They can be used for emergency or elective admissions. Generally these beds require the same kind of staff and nursing facilities as acute beds in a specialist unit, and they must be continuously available during seven days each week. Clearly, however, use of these beds will tend to contract at week-ends when the patient load falls. There is no reason why some of the beds in an acute general ward should not be used in this way, but the rapid turnover of patients in this type of accommodation may make a separate short-stay unit desirable. In view of the relatively limited experience available, an investigation into the most effective means of using this kind of accommodation would probably produce valuable

results. Short-stay beds are being built into the new district general hospitals in association with the accident and emergency departments and we support the policy that these beds should be part of all new acute hospital developments.

FIVE-DAY BEDS

153. In the general hospital these beds, which are similar in their medical and nursing requirement to the acute specialist beds, could be used to provide accommodation for patients whose condition can be investigated or treated during the course of a five-day week. The beds would close down at week-ends which would facilitate their staffing, for example by part-time married nurses. Some patients would need to be transferred from these beds to an acute ward at the end of the week if they were not fit to go home. This kind of unit would be very suitable for certain categories of short-stay patients, such as those requiring radiotherapy, endoscopy and certain surgical procedures as well as certain forms of psychiatric care. The location of such accommodation would need to preserve functional links with the supply services and with the treatment and diagnostic areas. This might be achieved by these beds being part of the main ward block, or in a linked ward unit, or by some redistribution of services to permit one or two wards in a large hospital to be used in this way. The admission to these beds of patients requiring operation would have to be concentrated at the beginning of the week in order to avoid carry-over at the week-end, and the number of operating theatres available might be a limiting factor except in large hospitals. We recommend that an experiment should be carried out in an existing large hospital by a redistribution of the services to permit one or two wards to be used as described, and that these wards should be shared by consultants in different specialties.

SUPPORTING BEDS

154. In the following paragraphs we consider four main types of supporting beds, namely pre-discharge beds, convalescent beds, long-stay beds and hostel beds.

Pre-discharge Beds

155. The cost of staffing beds in an acute hospital is high, and increasing, and the services which they provide are often much more elaborate than they need to be for some of the patients who occupy them. It has therefore been suggested that every acute general or special hospital should have a sufficient number of pre-discharge beds in supporting units preferably on the hospital campus for patients recovering from short-term illnesses. We consider that for the patient staying not longer than about ten days in hospital there is perhaps only a marginal case for movement to a pre-discharge bed since this would imply an uneconomic fragmentation of resources as well as unnecessary disturbance to the patient. We do consider, however, that these facilities will be useful for those requiring extended hospital care. The amount of medical and nursing care required in these units would be very considerably less than in the acute bed areas. The scale or provision would be determined to a large extent by the volume of facilities for domiciliary support provided by local health authorities. We recognise that there is no easy definition or separation of the various clinical or social needs, and that the development of an integrated service would facilitate the movement of patients in these marginal situations.

156. We are informed that the general question of supporting beds is the subject of a current study being carried out by the Scottish Hospital Centre with the financial assistance of the Nuffield Provincial Hospitals Trust. Accordingly, it is too early to come to a conclusion. There is considerable scope for the functional study of the use of pre-discharge beds. All hospital patients must continue to be under the clinical care of a consultant, and patients in pre-discharge beds are in no way different. Nevertheless, the degree of consultant attention required by these patients would be minimal and most of the medical work could be delegated. Particularly where the accommodation is remote from the acute beds, the patient could be looked after by a general practitioner on the supporting staff. Pre-discharge wards should not be specific to specialties and should be shared by all consultants.

157. The siting of pre-discharge wards is of importance. If circumstances permit, they should be close to the locus of consultant interest, that is to the acute ward and the therapy facilities, to permit easy interchange between them and the acute unit. All aggregations of beds should, if possible, be on the hospital campus as an integral part of the hospital building complex to permit the interchange of nursing staff, the convenience of medical staff and the easy access to the supporting services of the hospital.

158. We recommend that further studies be made to evaluate the usefulness of pre-discharge beds and an opportunity to study these should be created by the re-deployment of beds in a large hospital group. If the use of this accommodation proves successful then further experiments in the provision of purpose-built accommodation should be undertaken.

Convalescent Beds

159. We consider that there is little demand for convalescent beds, that is beds for patients requiring a holiday or rest after hospital treatment, and that, in general, patients prefer to return home rather than move to a different hospital during the convalescent period. Some beds of this kind may be needed, particularly in the geriatric and paediatric fields, for people whose domestic circumstances are not adequate, although these beds might more appropriately be provided by the local authority than by the hospital authority.

Long-Stay Beds

160. Most long-stay beds are in psychiatric and geriatric hospitals and the use of these beds, which are associated with large day areas, will continue.

161. Long-stay beds are also required for young chronic sick patients, many of whom are specifically catered for both by statutory and by voluntary bodies, for example, paraplegics, spastics and those suffering from multiple sclerosis and poliomyelitis. Others are not in special accommodation but are admitted to geriatric units. We agree with the view expressed in the Macdonald Report* that this is undesirable, but we do not entirely agree that they should be segregated in special units. We should prefer to see these patients dispersed by specialty preferably remaining under the consultant primarily responsible for them who would usually be a physician, a neurologist, an orthopaedic

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* The Young Chronic Sick. Report of a Sub-Committee appointed by the Scottish Health Services Council. H.M.S.O. 1964.

surgeon or a consultant in mental deficiency, and to facilitate this they should be accommodated in supporting beds on the hospital campus.

Hostel Beds

162. We do not regard hostel beds as forming part of the hospital, although they could, as in the United States of America and elsewhere, fulfil a useful purpose for patients who have to travel considerable distances for investigations or treatments which do not require their admission to hospital, and for relatives visiting hospital in-patients. A hostel of this kind is really a hotel and does not require either medical or nursing staff. We consider that special provision of this kind could be justified only if sufficient demand could be demonstrated, and, even then, it does not necessarily follow that the hospital authorities themselves should go into the hotel business. As there is already some conflicting evidence from limited experience it would be worthwhile to undertake an experiment in connection with a large hospital to establish the need for places of this kind. It might be possible to do this by coming to some arrangement with a nearby hotel to reserve a certain number of rooms for hostel purposes. In any case, it is desirable that hospitals should accept responsibility for helping relatives and patients to arrange accommodation.

163. Hostel beds are required in psychiatric units for patients who, although they go to work during the day, require to remain in hospital at night, and over the week-end.

DAY HOSPITALS

164. A day hospital for the elderly or psychiatric patient implies much more than a "crèche" and must provide more than a custodial service. The emphasis should be on an active therapeutic programme for each patient who initially must be fully assessed by the consultant. In this way the therapeutic activities of the day hospital, such as physiotherapy, occupational therapy, chiropody and electro-convulsive therapy, can be deployed to the patient's best advantage. During the period of attendance each patient must be regularly reviewed by the consultant. There is no doubt that patients who have been admitted to a ward can be discharged earlier if an efficient day hospital service is provided. It has been found possible to carry out many investigations on a day-patient basis thus avoiding admission. The importance of the social therapy function of the day hospital must be stressed. It enables patients to meet other similarly disabled persons, to see how they cope and also to meet the trained staff of the hospital. Since the day hospital has this social function as well as a medical one, only patients who require both these therapeutic influences should attend. Experience has proved the value of these hospitals and we recommend that their further development should be encouraged. This would require the co-operation of the Scottish Ambulance Service in providing adequate transport.

PLANNED EARLY DISCHARGE FROM HOSPITAL

165. It is a well known feature of the hospital situation that wide variations tend to occur in the duration of patients' stay for similar clinical conditions in different hospitals, and in different units in the same hospital. We believe that the development of the technique of patient care evaluation, which we

have already mentioned in Chapter I and which we discuss in greater detail in Chapter IV of this Report, would assist consultants to evaluate the factors affecting the duration of stay of their patients.

166. The planned early discharge of patients from acute wards (including obstetric wards) is a subject which probably requires further study. Its adoption would necessarily imply that the practice involves no additional medical risk and may be beneficial for the patient, although it may also be justified in the interests of the community in that it frees hospital resources required by other patients. It implies an adequate provision of supporting beds or the existence of satisfactory domestic arrangements, and an effective out-patient and domiciliary care service, which in turn requires co-operation amongst the hospital, the general practitioner and the local authority services. We are sure that a close co-operation of this kind would lead to a reduction in length of stay in hospital in many cases. It must rarely be justifiable to retain a patient in hospital solely to await the results of investigations unless there is a real likelihood that the result will not only be significant to the patient's care, but that it will set in motion immediate therapeutic procedures. It is, of course, important to ensure that the discharge of patients from hospital is not delayed by lack of communication with general practitioners or relatives, or by an inability to obtain the patient's clothes or essential equipment which is required in the home after discharge.

SUPPLY SERVICES

167. Some hospital supply services are being introduced to reduce the possibilities of infection as well as to create more efficient methods of supply, but they are also of great importance in the saving of nursing staff time.

168. The development of central sterile supply services in various forms is revolutionising and simplifying the organisation of surgical work. Added to this is the increasing use of disposable materials which are extending to a wide range of dressings and equipment. These developments are by no means complete and their further extension will considerably assist surgical and nursing techniques and the control of infection. Given an adequate supply of instruments, central sterile supply eliminates the need for sterilisers in wards and departments and supplies them with sterile linen, sterile instrument packs, syringes, etc. The theatre sterile supply unit eliminates sterilising rooms serving each theatre and a consequent misuse of nursing time. It is, of course, essential if the clinical staff are to obtain the advantages of this system that they should co-operate in the use of standard sterile instrument packs. We recommend that these facilities be extended to serve all hospitals and other branches of the National Health Service.

169. New techniques are being evolved for pharmacy services at ward level to reduce the margin of error between the prescribing and the administration of drugs, to provide accurate recording for the evaluation of the results of drug treatment and to rationalise the work of the staff involved. One such technique uses a standard combined form for prescription and medicine list thus avoiding transcription errors. In addition, the pharmacist is integrated into the ward team, having full control of ward stocks and dispensing drugs for individual patients at ward level. We recommend the critical examination of existing practices with a view to achieving these objectives.

AUTOMATION AND MECHANICAL COMMUNICATION

170. Substantial progress has been made in the automation of various hospital tasks and, here again, the process would seem to be only in its early stages. The effect of automation in the clinical field is probably best illustrated by the development of automatic physiological monitoring devices. In the field of clinical chemistry the use of auto-analysers has been widely adopted and the possibility is being investigated that these could be effectively linked with computer services to provide up-dated reports of examinations involving the measurement of numerous indices. Again, in the clinical field, the possibility of computerising the interpretation of various physiological tracings, especially electro-cardiograms, offers the ultimate prospect of a very much extended service. Record storage on tape and computerisation will greatly facilitate the finding of records, and reduce the storage space required for them. Other developments are the use of doctor call systems, patient-nurse communication systems, closed-circuit television for observation and teaching, pneumatic tube transmission systems where appropriate, and arrangements for the feed-back of statistical information to consultants. We recommend that these facilities should be made available in hospitals as appropriate, and that the development of new methods of automation which will improve the service should be kept under constant review.

COMMUNITY SCREENING

171. In the earlier part of this Chapter, we have considered possible developments within the hospital itself. One further development which would have a bearing on hospital care would be the extension of community screening.

172. Community screening has the positive advantage of facilitating the early recognition and treatment of illness. It is not a new concept; mass radiography has been well established in this country for many years and has, in fact, achieved so much that its future is in doubt; the systematic medical screening of school children is a long-established practice and there are special services devoted to the discovery of defects in eyesight and hearing. Geriatric screening is also used and has the advantage of bringing minor deviations from health to the notice of the doctor before they develop into major illnesses thereby avoiding admission to hospital. On the other hand, psychiatric screening to ascertain the presence of mental illness has not proved easy to carry out in general practice. Community screening should not be undertaken lightly or without careful consideration of the various factors involved. The yield must be sufficiently high to justify the effort, and the benefit to the patient must be tangible and worthwhile. It is also essential that adequate treatment services should be available to cope with cases detected by screening.

173. Community screening is at present being extended into new fields, for example, cervical cytology and diabetes and, judging by experience in other countries, it is likely to develop even more rapidly in the future. As this process continues, and more becomes known about the interpretation of tests and the yield of abnormal results in different groups, there will be an inevitable movement towards the screening of selected groups which are likely to produce the highest or most significant findings; there is a need for studies to identify vulnerable groups suffering from different diseases.

174. It is clear that developments of this kind will make a considerable demand on the laboratory and other technical services in hospitals, and an essential element in the development of screening will be the employment of new methods of laboratory processing linked with computer recording and reporting in order to reduce the demands on staff to a reasonable level. While the hospital service is bound to be particularly affected by the development of screening on the technical side, it is certain that success of the arrangements will depend on the co-operation between the hospital, general practitioner and local authority health services, and that developments would be much easier in an integrated service. In fact, community screening may be one of the main lines of development in medicine over the next decade, and we regard it as of the utmost importance that experiment and research in this field should be supported.

CHAPTER IV

Operational Research

THE NEED FOR OPERATIONAL RESEARCH

175. In the previous chapters of this Report we have on numerous occasions referred to the need for more factual knowledge about medical work in hospitals, and about the effects of changing it. This is especially so to-day in a situation where it is essential to make the most effective use of limited resources in terms of beds and man-power. In this Chapter we consider in more detail how the techniques of operational research could enhance the capacity of clinicians to evaluate their work and the efficiency with which they use available resources; and how increasingly factual data can be made available to those responsible for making predictions and decisions.

DEFINITION

176. Operational research has been defined by the British Standards Institution as "the application of scientific, analytical, experimental or quantitative data to industrial and business problems with the objective of providing a more analytical basis for making predictions" (BSI/A7505).

177. While this definition limits the application of operational research to industrial and business problems, there is every reason for operational research to be applied in the medical field, and particularly to the organisation of the hospital service, in order to make the best use of resources. Operational research as we have used the term involves principally the collection of objective data on the day-to-day work of hospitals and their staffs, either as a routine or on an *ad hoc* basis. Only rarely does it involve the use of complicated mathematical or statistical techniques. It is quite true that certain problems are amenable only to a complicated form of analysis; but most of our deliberations have been concerned with the type of study which does not require specialised statistical training.

METHODS OF OPERATIONAL RESEARCH

178. In the following sections we consider the methods of operational research most likely to be of value when applied to medical work in the hospital service. These are the use of routine statistics, the technique of patient care evaluation, work study and other *ad hoc* studies.

ROUTINE STATISTICS

179. The provision of sound statistical data concerning work performed is the basis of operational research in any context. Such information assists clinicians to compare their work with that of their colleagues, and to consider the implications of these comparisons. Under present circumstances there may exist in the same hospital wide divergences of practice, which could with benefit be brought to light. An analysis of differing durations of stay is an obvious example. Once interest has been aroused the organisation of specific studies is likely to follow almost automatically.

180. We have set out in Appendix III a note on the statistical information which is currently collected for every hospital in-patient in Scotland except those in maternity hospitals. These data are the source material for the Scottish Home and Health Department's hospital in-patient and mental health statistics, and provide much scope for study.

181. The content of these statistics, and the manner of their presentation, will require regular review if their value is to be properly exploited. Clinicians will make use of the information only if it is circulated regularly, and as soon as possible after the period to which it relates. Data should be available for individual clinicians in a form which is brief, relevant to him, to his particular specialty, or to his hospital, and accompanied where necessary by a short commentary on the outstanding findings.

182. In spite of its potential value, only scanty information is at present being collected for out-patients and day patients. Unless some sampling procedure were introduced, detailed statistics would produce a volume of material too great to be handled by existing resources but investigations might be undertaken into the possible inclusion of such statistics in the future. The same might also be said of statistics relating to diagnostic departments.

183. The use of statistics at routine meetings of consultants, for example at clinical meetings, should be actively encouraged. The circulation of short papers relating to subjects of topical interest would be of value. Formal courses of instruction on statistics do not at present appear necessary, but there may be a place for informal seminars at which the interpretation and uses of statistical information could be discussed.

184. The setting up of medical records departments has not so far resulted in any general increase in the dissemination of clinical statistical information. Some of the responsibility for this may lie with the increase in the work demanded of records staff; it may also be that clinicians do not yet realise the potential usefulness of the information, nor the part they have to play in encouraging accuracy and completeness in its collection. We believe that the medical records officer has an important part to play in operational research at hospital level, where he should be encouraged and trained to prepare and analyse data, and to help clinicians in appropriate studies. Since this extended use of statistical material will throw more work on the medical records department, it is essential that any unnecessary duplication of the returns which they have to make should be eliminated.

185. Standardisation of medical records would greatly facilitate the production of useful statistics. In February 1964 the Standing Medical Advisory Committee set up a sub-committee "to consider medical records systems in Scottish hospitals, their present and potential functions and the possibility of standardisation in the light of the forthcoming report of the Standing Medical Advisory Committee (England and Wales)". We look forward to the publication of the report of the sub-committee which is expected about May, 1967.

THE ASSESSMENT OF STANDARDS OF CARE

186. Hospitals in the United States and Canada may join in what is known as the Professional Activity Study. This is organised by the Commission on Professional and Hospital Activities, and has continuing education as its primary objective. The method of study is the submission of a statistical case

abstract for each patient discharged, this being more detailed and more clinically orientated than the return at present used in the Scottish hospital in-patient statistics. The case abstracts are submitted in monthly batches and the Commission then returns, within two or three days, listings of patients' records and a statistical analysis. Diagnostic indices and further analyses are produced at six-monthly intervals. Further *ad hoc* tabulations are prepared on request. Hospitals can also participate in the Commission's Medical Audit Plan, in which they are identified by a code number, known only to themselves. They receive reports designed to give indices of the quality and quantity of medical care, the Commission's part being merely to process the data and provide the tabulations.

187. A "Medical Audit" is then carried out by the hospital's own medical staff, using standards for comparison which are determined by the staff themselves. The audit is therefore a screening technique designed to identify instances in which these agreed standards have not been met, and to enable the records of those patients to be studied in detail. A short description of these activities is given in Appendix IV.

188. The principle of this technique is a good one. While the ultimate responsibility for a patient must remain with the individual consultant, there should be some group responsibility for maintaining and raising standards of patient care particularly in the light of new knowledge; the more complex medicine becomes, the greater is the need for evaluating techniques of this sort.

189. Since the term "audit" implies inspection and supervision by an outside body, neither is it entirely accurate in a medical context nor does it properly reflect the principle we should like to see accepted by Scottish hospitals. We propose the term "patient care evaluation", and suggest that studies should be undertaken to determine what modifications to the American technique are necessary.

190. The introduction of this type of activity in this country might best take place through the medium of existing clinical meetings and clinico-pathological conferences. There are three possible experimental approaches by which the system might be established at a hospital or hospitals, or in corresponding departments in a number of hospitals.
These are:—

(a) The initiation of evaluation studies with the assistance of the university departments of social medicine, or of the Scottish Home and Health Department's Research and Intelligence Unit.

(b) Participation for an experimental period in the Professional Activity Study with the co-operation of the Commission of Professional and Hospital Activities at Ann Arbor, Michigan.

(c) Investigation of the suitability of existing hospital in-patient discharge data for this purpose.

191. The introduction of patient care evaluation would require an improved standard of record keeping preferably based on simple and concise abstract sheets; to provide this there would have to be an adequate establishment of trained medical records staff. Major developments would require a large amount of additional data, but the existing records might indicate fruitful areas for further study. It would be necessary in the first place to develop

simple criteria for assessing the results of treatment, such as survival rate, recurrence rate, time of return to work, etc.

192. If patient care evaluation becomes more widely accepted, additional means will be needed for the dissemination of the data emerging. We suggest that reports on selected topics might be circulated, and that there should be discussion at divisional level, with the possibility, in appropriate cases, of circulation of reports to other interested divisions. Matters of general interest to the hospital could be discussed at clinical meetings and there might be occasional consideration by learned societies of items of wider interest.

193. Junior hospital medical staff should be encouraged to play a prominent part in the presentation of the evaluation type of survey and they should also take part in the discussions at divisional level. General practitioners may in the future have a part to play in evaluation discussions, and in the provision of some of the data on which the evaluation will be based. The data on return to work held by the Ministry of Social Security are also relevant and we recommend that they should be made available for future study.

WORK STUDY

194. About six years ago there were discussions between the Department of Health for Scotland and the Joint Consultants Committee (Scotland) about work study in relation to doctors' work. It was agreed that there were no reasons in principle why work study should not be carried out in medical departments, although full account would have to be taken of the special relationship between the doctor and the patient. A paper setting out the results of these discussions was circulated by the Committee to their constituent bodies; and similarly the Department made known to Regional Hospital Boards the agreement which had been reached. In spite of this, little work study has, as yet, been undertaken in the medical field. We have looked at the whole question afresh and while our views do not greatly differ from those reached in the earlier discussions, we have thought it best to set them out fully below.

195. Shortages of medical staff make it more than ever essential that their time, like that of other hospital staff, should be utilised in the most efficient way. Work study techniques can play some part in ensuring that this is done. The first need is to discover to what extent techniques require adaptation to suit the doctor's work — a study that would be best initiated by the doctors themselves.

196. As satisfactory techniques are evolved studies may well be suggested by doctors themselves. Where the initiative comes from elsewhere, the prior agreement of the doctors is essential, but should not be unreasonably withheld. Full weight should be given to personal preferences in each consultant's method of working, to the need for confidentiality, and to the maintenance of standards of patient care and comfort. The design of any proposed investigation, and the implementation of any agreed changes resulting from it, would require continuing co-operation between doctors and work study personnel; this should take place at divisional rather than at individual level.

197. Some types of work study relevant to hospital medical practice are:—

(a) Job analysis. This is required to discover how much time is spent in various tasks.

(b) Studies of layout and facilities.

(c) Detailed study of time and motion in appropriate laboratory and clinical situations.

(d) Study of the duties of medical staff, with a view to the re-allocation of such clerical or other non-medical components as may appropriately be delegated.

198. The use of medical staff would be essential in the early studies while appropriate techniques are being developed. It is propable that suitable staff will be too few to permit their regular use in the enquiries which would ensue and work study staff could be used in situations where no infringement of the confidential doctor-patient relationship was involved. Local medical staff should receive special training for short-term studies of a limited nature. This experience would be of value not only in the completion of the particular study, but also in providing knowledge applicable over a wider sphere. Nurses who had received special training would be acceptable as observers of work performed in the patient-doctor situation, and on limited occasions medical students might with advantage to themselves be similarly employed.

199. Techniques such as closed-circuit television and one-way screens could be employed, with the patient's permission, to avoid the embarrassment which can result from the physical presence of a third party.

AD HOC STUDIES

200. Routine statistics and patient care evaluation will only rarely provide definite answers to problems. One of their main purposes is to raise questions which will require further more detailed study. These studies will vary greatly in size, from the small study undertaken by an individual on a part-time basis, to the large full-time investigation carried out by a university department or a research team which will inevitably be time-consuming and expensive. More such *ad hoc* studies are required if we are to have sufficient knowledge of the working of the service, and of the way in which its resources are being used.

201. There is no limit to the number and complexity of *ad hoc* studies which might be undertaken; in any particular situation much will depend upon the interests of the individual or team concerned, and the needs of the moment. We considered a large number of possible studies and summarise some of these briefly below.

In-patient Care

(a) Studies of the effect of the dispersal of patients consequent upon increase in flexibility of bed-usage. These will need to take into account effects on the patient, his doctors and nursing and other staff.

(b) An evaluation of the situation existing currently in many hospitals where ward sisters work exclusively with a particular consultant or consultants, and of the advantages and disadvantages which might result from any change to a system with a less rigid allocation of beds.

(c) Further studies consequent upon the general investigation being carried out by the Scottish Hospital Centre of the financial advantages and medical implications of the establishment of second-line supporting beds.

Ancillary Help

(d) Many investigations could be undertaken into possible ways of facilitating early discharge from hospital and these might particularly involve studies of the more effective use of medical and psychiatric social workers, of local authority services and of increasing co-operation with the family doctor.

Laboratory Services

Consequent upon the increase of automation in biochemical and haematological laboratories, there is a need to investigate:

(e) the most effective use of multiple routine methods of investigation;

(f) the effect of such routines on accuracy of diagnosis, length of stay and the patient's well-being;

(g) the selection of tests appropriate to different categories of patient;

(h) the best method of presentation of data to the clinician.

Out-patient Care

(i) Study of the planning, organisation and use of out-patient theatre suites. (This should involve an assessment of the critical volume of use to justify such a suite and the disadvantages of shared theatre usage by various specialties.)

(j) Investigation of the staffing and use of ward units for day patients.

(k) Studies in depth of the use and effect of direct access diagnostic and ancillary services by general practitioners, including —

  (i) the effect of services on the need for referral for specialist consultation;

  (ii) for those patients who are eventually referred, the extent to which tests previously performed are taken into account;

  (iii) the variation in the use of particular facilities.

(l) Detailed investigation of the relationship of the general practitioner to the consultant as revealed by out-patient consultations and return of the patient to general practitioner care.

(m) A detailed examination of the purposes, benefits and outcome of domiciliary consultations.

Costing

(n) Studies of the most convenient way to present costing data so that they are of direct interest and relevance to individual consultants (including such items as drug usage).

Teaching

(o) The evaluation of teaching methods and the relation between teaching commitments and patient care.

Use of Resources

(p) Studies of the requirements and advantages of different methods of providing supporting services of a secretarial and technical nature for medical staff.

(q) Evaluation of doctors' methods of work.

(r) An assessment of the need for residence of junior medical staff within a hospital, leading to consideration of the possible use of a medical "night-shift".

(s) Investigation of various methods of conserving nursing staff time for purely nursing functions, and the distribution of duties among various nursing grades.

202. It will be apparent that the list is very far from being a complete one; it should be regarded as no more than an indication of certain fields which are, at the moment, in urgent need of investigation.

STAFFING NEEDS OF OPERATIONAL RESEARCH

203. Although much more profitable use can be made of the staffing resources at present available for carrying out operational research, future developments must also be considered.

204. The greatest need is for the development, along the lines of the Scottish Home and Health Department's Research and Intelligence Unit, of Regional teams which will be able to undertake studies on their own account, process and analyse Regional statistical data, and advise other persons wishing to undertake operational research. Because of the varied size of Scottish hospital Regions there is room for more than one type of organisation. The larger Regions should be able to support their own units, while small Regions might wish to have joint arrangements either with neighbouring Regions or with universities and local authorities.

205. The further strengthening of the Scottish Home and Health Department's Research and Intelligence Unit is also essential, not only in order to develop the work at present in progress, but also because it has a role to play in the training of personnel at all levels in the operational research field. This role requires a departure from current channels of communication in that the analysis of performance should be sent by the Department direct to individual consultants. Such direct contact, and the opportunity for discussion with local teams, will create the essential features of personal co-operation.

206. Wherever possible university departments, not necessarily in the medical faculties, should be encouraged to turn their attention to operational research in the National Health Service. Although training has been specifically mentioned as a function of the Research and Intelligence Unit, this is but a small part of what is needed. The National Health Service is particularly short of statistical advice. It would be helpful if university departments could offer post-graduate tuition that was specifically directed to the study of Health Service problems.

207. There will be a continuing need for training of medical records officers so that they are able to offer elementary statistical advice and undertake simple analysis, and also know how to obtain assistance in the more complicated problems which will inevitably arise.

208. Work study teams will need to be augmented, not only on a permanent basis, but by the training, often on the job, of personnel of grades most suited to act as observers in a particular situation.

209. As part of the educational process, junior medical staff should be encouraged to undertake operational research in the same way as they are at present encouraged to undertake clinical research. Equal weight should be given to either field when considering suitability for promotion.

210. Very often consultants, and indeed other medical staff, would be very willing to undertake operational research studies, if only time were made available for them to do so. This could be achieved by the granting of relief from routine duties for short periods. Such leave should be sought in a similar way to applications for financial assistance for research projects. It would ease the problem of finding a temporary substitute for the consultant if provision could be made for a senior registrar to hold a locum consultancy without prejudicing the security of his existing post.

211. Many grant-giving bodies and the Scottish Home and Health Department are already providing valuable financial aid. Additional work will require the continuance and extension of this. We would commend operational research as a fruitful field to those bodies not at present supporting it.

CHAPTER V

Communications

212. We should like in conclusion to consider one very important aspect of our work which we have called "communications", although we mean by this something very different from the mechanical means of communication already mentioned in paragraph 170 of Chapter III. We have already drawn attention to the fact that the changes we have considered, many of which are already operating in an experimental form, must lead to radical alterations in the outlook of the medical and nursing professions, the disappearance of the "firm" system for consultants' charges being perhaps the most striking example and requiring the most fundamental change in attitudes. If, as we hope, it proves possible to move towards integration of the three branches of the National Health Service, this would be an even more obvious example.

213. A great deal of discussion takes place about such matters in committees and on working parties. There are references to them in the professional press, and in various reports. There is, however, no comprehensive machinery for explaining the issues, seeking the views of the professions and discussing them in such a way that the information penetrates to the individual doctor or nurse and associates them in discussions with representatives from Boards of Management, Regional Hospital Boards and the Scottish Home and Health Department.

214. We consider it to be particularly important that communications should be improved between the clinicians and the administration. This two-way flow of discussion would be facilitated by the divisional system of clinical organisation we have recommended in Chapter I, which would provide for clinical staff, either within a particular discipline or jointly, to discuss policy matters with their Board of Management, or, where appropriate, with the Regional Hospital Board or the Department. It would also provide a natural channel of communication with the nursing staff and the professions supplementary to medicine.

215. The improvement of communications between the clinicians and the administration is one example of the need for better communications between the different groups of staff within the hospital, the group and the Region. Hospital care is so essentially a team enterprise depending on co-operation between different groups of staff that any steps to increase understanding between these groups and improve "esprit de corps" within the service must improve its efficiency and be to the advantage of the patient. Two Regional Hospital Boards already publish "house" magazines and we consider that there is scope for the extension of these publications to the Regions which do not yet have them, and also perhaps to groups and even the larger individual hospitals.

216. We have already mentioned in paragraphs 74 to 77 of Chapter I the need for management training courses at which clinicians, administrators and

nursing staff would have an opportunity for joint discussion of management problems. We consider that the holding of such courses would be facilitated by the setting up of a "staff college" which would not only provide a convenient forum for such courses, but would make it possible for a nucleus of staff experienced in the techniques of management training to run the courses efficiently and so enable the staff participating to derive the maximum benefit from them. We suggest, too, that the subject of communications ought to be covered in any courses limited to individual branches of the service, e.g., courses for nursing officers arising out of the recommendations of the Salmon Committee, and in courses for new entrants into the medical and general administration branches.

217. As the Scottish Home and Health Department's Research and Intelligence Unit develops it can be expected to become involved in an increasing number of investigations, some of the results of which will be of interest to hospitals and clinicians generally as well as to those taking part in them. Some means will have to be established for disseminating this information. The Department have recently introduced a new series of publications entitled "Scottish Health Service Studies" for the circulation of information about operational research projects carried out by the Department or by individuals or groups with whose work the Department have been particularly concerned. As another method of disseminating information, we suggest that the "Health Bulletin" issued by the Chief Medical Officer of the Department might be enlarged to incorporate shorter reports on investigations and its circulation extended more widely to cover all consultants as well as others likely to be interested.

218. Another important means of exchanging information is the Scottish Hospital Centre which, through its conferences and publications, is able to play a most important part in encouraging communication about all aspects of hospital work. We regard the Centre as a most important focus for efficient communication within the hospital service, between the three branches of the Health Service and between the Health Service and other interests such as industry.

219. Another field in which communications need to be improved is between the hospital service and the general practitioner. This could perhaps be best achieved by means of local news letters giving details of developments in the hospital service, with special emphasis on such matters as diagnostic and out-patient services which are of particular interest to general practitioners, though we realise that written communications of this kind may be disregarded. They should be supplemented where possible by meetings and discussions and perhaps by tours of hospitals showing recent developments. Similar links should be established between the hospital service and the local authority health services.

220. We think that there may be a case for setting up a small standing committee representative of the various interests of the service, for example, the Joint Consultants' Committee, the Association of Scottish Hospital Matrons, Regional Hospital Boards, Boards of Management and the Scottish Home and Health Department to devise and keep under review the channels of communication. This committee could, of course, be enlarged to include representatives of general practitioner•and local authority health services if progress in connection with integration appeared likely.

CHAPTER VI

Conclusion

IMPLEMENTATION OF RECOMMENDATIONS

221. We believe that the climate of opinion on many of the matters we have discussed is already changing. In some hospitals, medical staff have become aware that the existing pattern of clinical organisation is unable to cope with present-day requirements and opinion is moving towards the acceptance of a divisional system of organisation. We would hope that in these hospitals the stage has now been reached when the clinical staff would be agreeable to introduce the divisional system on an experimental basis. The experience so gained would be invaluable and would, we hope, facilitate the extension of the system to other hospitals and eventually throughout the service.

222. The general acceptance of these proposals would, however, require radical changes of attitude on the part both of the medical profession and of hospital managements; and it would be unreasonable to expect these to occur without wide-ranging consultations amongst all concerned. Given agreement on the principles involved, the organisational changes could be introduced relatively quickly. Since the proposals do not affect the physical structure of hospitals, nor their equipment, financial barriers should not arise in their implementation.

223. In view of the medical man-power shortage, the immediate recommendations on staffing in Chapter II are particularly urgent. It seems already, indeed, that the present difficulties are affecting morale, especially amongst the junior staff. We hope that a planned registrar establishment and programme of training can be worked out as a matter of urgency and introduced with the agreement of the profession and the hospital authorities. This would necessarily imply building up the permanent supporting staff including the fullest use of doctors able to give part-time service; the majority of these would be in general practice or perhaps married women doctors who have difficulty in taking full-time employment. It is also desirable that prompt action should be taken to relieve doctors of non-medical work and to provide them with the necessary technical and secretarial assistance. In the longer term the paramount requirement is for a re-orientation of both intermediate level hospital work and general practice so that there is once again common ground between them.

224. Although some of the recommendations in Chapter III depend upon new buildings and equipment, there is already scope for experiment. The adaptation of existing accommodation could provide valuable experience in the planning of new hospitals. A relatively modest expenditure on such studies now could prevent expensive mistakes in new buildings later. It is, of course, important, if the maximum benefit is to be obtained from such studies, that the experience gained should be made available to all those interested in hospital planning. The Scottish Hospital Centre could perform a useful role in disseminating this information.

225. The development of operational research recommended in Chapter IV can be divided into three main phases. The first phase, which would require only modest additional resources, might consist of the presentation to clinicians of readily intelligible statistical data concerning work done and the development of patient care evaluation based on these data, the initiation of local *ad hoc* studies and the extension of work study techniques, on an experimental basis, into the clinical field. In the light of increasing experience it should be possible in the second phase, but still within the short-term future, to initiate studies of a more ambitious nature. This will require the continued development of the Scottish Home and Health Department's Research and Intelligence Unit, the establishment of Regional units and the increased participation of clinical and diagnostic departments in operational research generally. In the third phase, the most important long-term objective would be a study in depth of the total medical needs of a community and of the efficiency of all services — general practitioner, local authority and hospital — designed to meet them. The identification of patients in need of care, and the extent to which the arrangements in force detect and meet this need, is a fundamental aim of operational research.

THE NEED FOR FURTHER CONSIDERATION OF THE WORKING PARTY'S REMIT

226. Almost all the problems we have considered merit detailed study, but many of them also require urgent action. In the circumstances we have thought it best to issue our First Report as soon as possible on those aspects of our remit which lend themselves to fairly rapid consideration, and where our recommendations may be relevant to the immediate situation in the hospital service, even although this has meant our being able to cover the ground only in general terms.

227. We propose in our subsequent report to give more detailed consideration to some of the ground already covered in our First Report, and to consider other issues which we have been unable to cover in the time available.

THE NEED FOR A FURTHER WORKING PARTY WITH WIDER TERMS OF REFERENCE

228. In addition to this follow up of our remit, however, we consider that there are wider problems in the field of medical organisation which merit further study by the profession and the Scottish Home and Health Department jointly. As we have mentioned in paragraphs 7–10 of this Report, we have found it impossible to look at the problems of efficiency in the organisation of medical work in the hospital service in isolation from the other branches of the National Health Service. We are convinced that there is a need for a review of the efficiency of the organisation of the Service as a whole, covering the general practitioner and local authority health services as well as the hospital service, and their inter-relationship with one another, if the Service is to fulfil its aim of providing comprehensive medical care for the community.

229. We therefore recommend that the Secretary of State should set up another joint working party between the profession and the Scottish Home and Health Department with wider terms of reference to consider the problems involved in promoting efficiency in the organisation of medical work in the National Health Service. In the interests of its own efficiency such a body should not

have too large a membership, but it should have the power to set up sub-groups in order to allow full participation of representatives of all the various interests concerned.

230. Although it is not strictly within our terms of reference, we recognise the difficulty of dealing with the medical aspects of this problem in isolation and consider that there will be need in due course for a wider investigation into the organisation of the National Health Service with representation from all those concerned with the administration of the Service.

CHAPTER VII

Summary Of Main Conclusions And Recommendations

GENERAL

(1) There is a need to work towards integration of the three branches of the National Health Service. While the full attainment of this would require legislation, much can and should be done now to move in this direction within the existing statutory framework. (Paragraph 9)

CLINICAL ORGANISATION

(2) The traditional pattern of clinical organisation does not meet present-day requirements. It lacks the flexibility which is necessary to deal with the continuing development of new specialties. It does not cope adequately with the need to re-allocate resources to meet changes in demand. It does not always provide an adequate and sufficiently broadly based training for junior medical staff. It does not facilitate the critical examination and evaluation of clinical work. Looking to the future, developments in hospital design and in the use of accommodation seem to call for a different type of clinical organisation. (Paragraphs 14 to 23)

(3) There is need for a system of clinical organisation based on larger groups of individuals than are to be found in the present units. (Paragraph 25)

(4) This new and larger administrative entity would be the "division" made up for the most part of a federation of "consultancies" within the same discipline; the "consultancy" would consist of the consultant and that part of the hospital staff and resources which are available to him. Although there may be circumstances in which it would be convenient for consultants to group themselves together in pairs or otherwise within a division, there would be no "consultant in administrative charge" of such sub-groups. (Paragraphs 26 and 27)

(5) The functions of a division would derive from the duties of individual consultants who would by agreement exercise certain of their responsibilities on a group basis. It would be the responsibility of divisions to ensure the efficient use of available resources for the benefit of patients. This would include planning and co-ordination of work within the division, and adjustment in the allocation of resources to meet changing demands. The divisional structure would facilitate co-ordination between specialties, and with other services such as the nursing service. Divisions would also organise and encourage patient care evaluation within the division and would organise and co-ordinate the deployment and training of junior medical staff. One of the important duties of divisions would be to formulate professional advice and tender it to the appropriate hospital authorities either on their own initiative or at the request of the authorities. (Paragraphs 30 to 37)

(6) While the normal pattern would be for divisions to be based on a single hospital, in some specialties they should be organised on an area basis. (Paragraphs 38 to 46)

(7) All clinical staff, including any general practitioners who work within a division, should be regarded as members of the division. The exercise of executive powers should usually be limited to the consultant members. (Paragraph 47)

(8) Each division would have a chairman who would act as its spokesman and leader. In the para-clinical specialties and certain clinical specialties organised on an area basis there are arguments in favour of having heads of divisions appointed on a long-term basis, but most clinical divisions should be allowed to decide for themselves how the chairman should be chosen and it seems probable that in most instances divisions would wish to elect their own chairmen for a limited term of office. (Paragraphs 48 to 52)

(9) Time should be made available for the chairman and other members of medical staff to undertake divisional duties. (Paragraph 54)

(10) Divisions should look to the medical superintendent for support in all their activities. (Paragraph 55)

(11) Professorial units should be included in divisions for all clinical purposes. This would make it easier to co-ordinate the research activities within a division, some of which might be undertaken with university money and others with money from Regional Hospital Boards and elsewhere. For this purpose divisions might find it useful to have a divisional research resources committee. (Paragraphs 58 to 60)

(12) The chairmen of all divisions within a hospital should form a committee (the Committee of Chairmen) to deal with professional matters which involve the interests of more than one division, or the hospital as a whole. This committee should be a valuable source of professional advice to the Board of Management. (Paragraphs 62 to 64)

(13) Staff committee systems should be re-organised and based upon divisions. (Paragraphs 65 to 68)

(14) The Regional Hospital Board should be able to look to the chairmen of all the divisions in any one discipline for advice on development and policy in relation to that discipline. (Paragraphs 70 to 73)

(15) If the proposed divisional system is to become effective it is of fundamental importance that clinical staff should receive management training. (Paragraphs 74 to 77)

MEDICAL STAFFING

(16) There is a shortage of medical man-power which is being accentuated by emigration and no substantial increase in output from medical schools can be expected for the next ten years. All available medical man-power should be used to the full, and wherever possible non-medical duties should be delegated. (Paragraphs 79 and 127)

(17) In recent years, there has been a considerable increase in medical staff in the hospital service, especially in the junior grades. (Paragraph 81)

(18) Consultant responsibility must be maintained for all hospital patients, although the degree of responsibility will vary. This responsibility covers

not only in-patients but also out-patients. There is need for investigation of out-patient clinical practice. (Paragraphs 84 to 86)

(19) There is at present a serious imbalance between training and staffing needs and this is affecting the morale of junior hospital doctors. (Paragraphs 87 to 99)

(20) In the long term, the paramount requirement is for a re-orientation of both intermediate level hospital work and general practice so that there is once again common ground between them. (Paragraph 105)

(21) Immediate measures which require to be taken in addition to the progressive build up in consultant strength recommended in the Wright Report are:

(a) planning of the registrar establishment;

(b) the setting up of Regional training advisory committees;

(c) the provision of career guidance on an organised basis;

(d) the expansion of the medical assistant grade.

(Paragraphs 106 to 115)

(22) There is need for the application of work study techniques on an experimental basis to the activities of hospital medical staff. Although some possible indices of work-load for clinical consultants have been outlined, further investigation of methods of measuring work-load of all grades of medical staff in hospitals is required. (Paragraphs 117 to 119)

(23) The provision of adequately trained secretarial help for hospital doctors demands urgent attention and there is a need for a proper career structure within the medical secretarial service. (Paragraphs 121 to 123)

(24) The hospital service should make the fullest possible use of part-time doctors; some of these would be in general practice or hold joint appointments as local authority medical officers, while others would be married women doctors. (Paragraphs 128 to 133)

(25) The planned pattern of training at registrar or senior house officer level should normally include a year at a non-teaching hospital. (Paragraphs 134 to 140)

ALTERNATIVES TO TRADITIONAL SYSTEMS OF HOSPITAL CARE

(26) Routine admission to hospital should be planned in advance. This purpose would be assisted if a block allocation of beds not earmarked for particular consultants or "firms" were reserved for emergency admission. (Paragraph 142)

(27) Patients who are admitted on an elective basis should reach hospital only after all the investigations and treatments which can reasonably be done on an out-patient basis have been completed, and the hospital organisation must be designed to ensure that any additional investigations and treatment are started as soon after admission as practicable. (Paragraph 143)

(28) Intensive nursing care areas are desirable in all general hospitals. (Paragraph 150)

(29) Intensive therapy areas, including post-anaesthetic recovery areas, resuscitation areas and intensive therapy units, should be included in all major general hospital developments. (Paragraph 151)

(30) Short-stay beds, including overnight beds and observation beds, should be part of all new acute hospital developments. An experiment on five-day bed wards should be carried out in an existing large hospital. (Paragraphs 152 and 153)

(31) Experiments on the use of pre-discharge beds should be undertaken in a large general hospital by the redeployment of existing beds and, if this proves successful, by further experiments using purpose-built accommodation. (Paragraphs 155 to 158)

(32) Young chronic sick patients should not be accommodated in geriatric wards; they might be dispersed by specialty and accommodated in supporting beds on the hospital campus. (Paragraph 161)

(33) An experiment should be undertaken in connection with a large hospital to establish the need for general hostel beds. (Paragraph 162)

(34) Experience has proved the value of psychiatric and geriatric day hospitals and their further development should be encouraged. (Paragraph 164)

(35) Planned early discharge should be facilitated by closer co-operation between the hospital, the general practitioner and local authority services. (Paragraphs 165 and 166)

(36) Central sterile supply services should be extended to serve all hospitals and other branches of the National Health Service. (Paragraph 168)

(37) Pharmacy services at ward level should be critically examined. (Paragraph 169)

(38) Modern mechanical communication facilities should be made available in hospitals as appropriate and the development of new methods of automation which will improve the service should be kept under review. (Paragraph 170)

(39) Community screening may be one of the main lines of development in medicine over the next decade and experiment and research in this field should be supported. (Paragraphs 171 to 174)

OPERATIONAL RESEARCH

(40) There is a need for operational research in the present situation where it is essential to make the most effective use of limited resources in terms of beds and man-power. (Paragraph 175)

(41) Clinicians should be presented with readily intelligible statistical data concerning work done. The content and presentation of data collected centrally will require regular review, and at the hospital level the medical records officer has an important part to play in the preparation and analysis of data on the local situation. (Paragraphs 179 to 185)

(42) Patient care evaluation should be introduced and studies undertaken to determine what modification to the American technique might be necessary. (Paragraphs 186 to 193)

(43) Work study techniques should be extended, on an experimental basis, into the clinical field. (Paragraphs 194 to 199)

(44) Possible *ad hoc* studies which might be undertaken have been outlined. (Paragraphs 200 to 202)

(45) More profitable use can be made of the staffing resources at present available for carrying out operational research. The staffing needs of future developments have been summarised. (Paragraphs 203 to 211)

COMMUNICATIONS

(46) There is a need for improved channels of communication for the dissemination of information on new policies and developments both between the administration and hospital staffs, and between the hospital and other health services. (Paragraphs 212 to 220)

CONCLUSION

(47) The implementation of the Working Party's recommendations will require wide-ranging consultations amongst all concerned. Some of the more immediate needs have been identified. (Paragraphs 221 to 225)

(48) It is proposed that the Working Party should continue consideration of its remit and issue a further report. (Paragraphs 226 and 227)

(49) There is a need for a further professional working party with wider terms of reference and wider membership to consider the problems involved in promoting efficiency in the organisation of medical work in the National Health Service as a whole. (Paragraphs 228 to 230)

Even though this is only an interim report, we feel that we must take the opportunity of giving our most sincere and genuine thanks to our secretary, Mr J. E. Tinkler, and his assistant, Miss K. J. Sinclair, both of the Scottish Home and Health Department, for all that they have done to help us and to put into shape the results of our discussions which we know were often involved and discursive. We should also like to express our very real gratitude to the members of the medical staff of the Department (Dr I. S. Macdonald, Dr D. W. A. McCreadie, Dr G. A. Scott, and Dr R. G. Walker) who acted as secretaries of the sub-groups we set up and dealt with the work of these sub-groups so speedily and efficiently.

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May, 1967.

APPENDIX I

MEMBERSHIP OF SUB-GROUPS

SUB-GROUP A: CLINICAL ORGANISATION AND STAFF COMMITTEE SYSTEMS

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SUB-GROUP D: ALTERNATIVES TO TRADITIONAL SYSTEMS OF HOSPITAL CARE

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APPENDIX II

SOURCES OF EVIDENCE RECEIVED

The following persons gave evidence to the sub-groups of the Working Party. All evidence was oral except where there is an asterisk which indicates that written evidence only was submitted.

SUB-GROUP A — CLINICAL ORGANISATION AND STAFF COMMITTEE SYSTEMS

Miss M. H. Cordiner, O.B.E., Lady Superintendent of Nurses, Royal Infirmary of Edinburgh.

Dr G. D. Forwell, Senior Administrative Medical Officer, Eastern Regional Hospital Board.

Miss J. T. Locke, O.B.E., formerly Matron, Victoria Infirmary, Glasgow.

Mr A. McDougall, Senior Orthopaedic Surgeon, Victoria Infirmary, Glasgow.

Professor J. A. Strong, Chairman of the Department of Medicine, Western General Hospital, Edinburgh.

SUB-GROUP B — OPERATIONAL RESEARCH

Mr W. Kincaid, Associate Director, Professional Activity Study, Ann Arbor, Michigan, U.S.A.

* Mr Ian G. Mackenzie, Consultant Orthopaedic Surgeon, Aberdeen Royal Infirmary.

SUB-GROUP C — MEDICAL STAFFING

Dr T. W. Baillie, Consultant Anaesthetist, Dumfries and Galloway Royal Infirmary.

Mr A. G. Graham, Chairman of Hospital Junior Staff Group (Scotland) of the British Medical Association.

Dr J. C. J. Ives, Consultant Bacteriologist, Glasgow Royal Infirmary.

Dr E. V. Kuenssberg, General Practitioner, Edinburgh.

Dr J. D. Robertson, Consultant Anaesthetist, Royal Infirmary of Edinburgh.

Mr R. B. Wright, Consultant Surgeon, Southern General Hospital, Glasgow.

SUB-GROUP D — ALTERNATIVES TO TRADITIONAL SYSTEMS OF HOSPITAL CARE

Miss M. Macnaughton, O.B.E., Chief Nursing Officer, Scottish Home and Health Department.

Dr A. L. Wilson, Senior Medical Officer, Scottish Home and Health Department.

APPENDIX III

HOSPITAL STATISTICS COLLECTED BY THE SCOTTISH HOME AND HEALTH DEPARTMENT

(1) The statistics currently collected by the Scottish Home and Health Department are of three types, two concerned with patients and beds and one with staff. These are discussed in more detail below.

THE H.S. 10

(2) The basic summary of a hospital's work is the H.S.10. This is completed twice yearly, on 31st March and 30th September, and data relate either to the position at that date, e.g. waiting list, or to occurrences over the previous six months, e.g. the number of discharges. From the data on the return, can be calculated average duration of stay, percentage occupancy, and turnover interval. From waiting list data, length of list per available bed or per discharge, can be calculated, and for out-patients, number of repeat consultations per new consultation. All these are available by specialty or for the hospital as a whole, although the value of the latter is doubtful because, at least for comparative purposes, so much depends on the distribution of the specialties.

(3) The H.S.10 will always be available at hospital and Board of Management level, but at the moment no comparisons are routinely possible except on a temporal basis. Regional Hospital Boards and the Scottish Home and Health Department produce their own summaries.

(4) The return for 31st March 1966 was, for the first time, processed on a computer and has been used to feed back to Regional Hospital Boards and hospitals, data comparing a hospital's experience with the Regional and national picture. Other tabulations planned consist of a comparison of the figures for one specialty in all hospitals in a Region or in Scotland.

THE HOSPITAL IN-PATIENT STATISTICS

(5) For every patient discharged from a non-obstetric bed a form (at Annex 1) is submitted to the Scottish Home and Health Department. The returns from psychiatric hospitals cover much the same subjects and also allow for relating subsequent admissions of the same person. It is hoped that the collection of data for obstetric patients will commence during 1967. The form is at present under consideration.

(6) The data on these forms are processed by computer and tabulations prepared. Those for publication have appeared in the Scottish Hospital In-Patient Statistics published annually by the Scottish Home and Health Department.

In addition hospitals all receive, via Regional Hospital Boards, copies of tabulations relating to their own cases. Further and more detailed *ad hoc* tabulations are always available on request to *bona fide* enquirers.

(7) Mainly because of machine difficulties the tabulations produced have consisted of undigested figures, giving number of cases and number of bed-days spent in hospitals. Tabulations from 1965 onwards, because of more

advance data processing facilities, will be in a much more intelligible form. The discharge sheet for 1967 will contain, in addition to the present data, the name of the consultant, thus allowing him to have data relating to his own cases either in the form of statistics, with suitable comparisons, or as lists which could act as a diagnostic index.

(8) It is hoped that the new form design will permit it to be useful in hospital as a clinical summary as well as the statistical data sheet.

(9) Finally, within the next two or three years as record linkage becomes more readily available, it is to be hoped that tabulations will be produced which link subsequent admissions of the same person to the same or different hospitals, or to link those admissions to a patient's subsequent history.

STAFFING STATISTICS

(10) Only those returns relating to medical and nursing staff are of direct interest although others are available if necessary. The current position is as follows:

(11) At the end of March and September a form is completed showing the staff in post at each (a) Regional Hospital Board, (b) Board of Management and (c) hospital. In addition a quarterly return of student staff in hospitals is made, mainly for administrative purposes. As from September 1962 there has been an annual census of junior hospital medical and dental staff and from September 1964 a census of senior hospital medical and dental staff. These data are summarised nationally and by Regional Hospital Board areas.

(12) In future, most of the information relating to medical and nursing staff will be held on tape as part of the National Health Service superannuation data. The amount of information available will be considerably greater than at present and many more tabulations will be obtainable. All staffing statistics with the exception of those relating to locums will be produced from this one source. The number of vacancies is under review each year, information being obtained on an appropriate form.

(13) As yet little work has been done relating the staffing statistics to the bed and patient statistics, except very broadly on a national or Regional basis. This should be a fertile field for investigation in the future.

ANNEX I

MEDICAL – IN CONFIDENCE

SCOTLAND – HOSPITAL IN-PATIENT RECORDS SUMMARY SHEET

S.M.R. 1

Code No. of Hospital 1 - 3

Hospital Case Reference No. 4 - 9

SURNAME (enter 1 letter in each box) 10 - 24

FIRST NAMES (enter first 2 initials: if only 1 enter in box 26) 25 - 26

Area of residence 27 - 31

Date of Birth — Day Month Year 32 - 37

Sex 38

Marital State 39

Consultant/ G.P. on discharge 40 - 45

For official use

46 - 48 Occupation *in full* (Specify)

Address

Consultant

Name and Address of G.P.

Religion

N.I. or Pension No.

Name and Address of next of kin

Date placed on Waiting List			Source of Admission	Date of Admission			*Date on Discharge Transfer or death*			Hosp. Div. or Unit on discharge	Type of bed on discharge	Discharge Code
Day	Month	Year		Day	Month	Year	*Day*	*Month*	*Year*			
49 - 54			55	56 - 61			62 - 67,			10 - 11	12	13

Diagnosis (1) 14 - 17

Other Conditions to be Indexed (2) 18 - 21

(3) 22-25

Surgical Operations (1) Day Month 26-29 30-32

(2) 33-35

FOR CLINICAL USE

APPENDIX IV

PROFESSIONAL ACTIVITY STUDIES AND MEDICAL AUDIT PLAN

(1) These techniques have been developed by the Commission on Professional and Hospital Activities of Ann Arbor, Michigan.

(2) The basis of the Professional Activity Study is a case abstract which is completed by the Medical Records Officer from the patient's clinical notes thus avoiding unnecessary clerical work by medical personnel.

(3) This case abstract sheet is used to collect a variety of information relevant to the individual patient. These include:

1. Identification date
2. Personal data e.g. sex, date of birth, height and weight
3. Dates of admission and discharge and other hospital administrative data
4. Diagnoses (8 may be given)
5. Surgeon and operations performed
6. A wide range of clinical investigations
7. Treatment details

(4) The abstract sheets are forwarded from participating hospitals after completion, and subsequent processing and analysis for all records is undertaken by computer at Ann Arbor. This is under medical supervision.

(5) The processing of these abstracts by computer permits the rapid analysis and return of information to the participating hospitals. Three main forms of output are available and some examples are given below:

(1) A set of routine P.A.S. reports —

(a) Monthly listings of individual cases by diagnosis, operation, patient number and deaths. For each patient on these lists certain details obtained from the abstract sheet are set out. These include information on investigations performed and treatment given.

Two monthly tables summarising discharges by age, sex, deaths, absence of appropriate laboratory examinations and other data are also provided. One of these is by specialty, the other by diagnostic group.

(b) Twice yearly lists of individual cases are produced for diagnosis, operation, physician and surgeon. The detailed information produced for each patient is similar to that in the monthly listings described in 1(a) and constitutes a diagnostic index.

Summary tables are also provided twice yearly for age and duration of stay by diagnosis, diagnostic group, operation and operation group.

These standard returns may show some modifications in form and content from time to time in the light of current requirements. They present data in a form that is useful both to the clinician and administrator.

(2) Special studies on particular topics of interest to the individual hospital can be undertaken as required. Inter-hospital comparisons of data can also be undertaken. These studies can use any piece of information contained in the abstract sheet. Studies undertaken on this basis have included such investigations as the geographical distribution, morbidity and mortality of cases admitted to a particular hospital.

(3) The information on the abstract sheets will also be available for clinical, epidemiological or operational research of a general nature. These may relate to the data of an individual physician or hospital or to the combined experience of all participating hospitals. Examples of this type of use include the epidemiology of single bottle blood transfusions.

(6) The Medical Audit Plan, which is an extension of the Professional Activity Study, uses the data provided by the P.A.S. abstract sheet to provide an evaluation of the quality of medical care provided.

(7) A quarterly series of P.A.S. - M.A.P. reports is produced which draw attention to possible defects in care for each of the major specialties, medicine, surgery, obstetrics and paediatrics. The specialty of medicine receives a summary table and a note of individual cases listed by diagnosis and providing information on investigation and treatment. An additional summary and list of individual cases by operation code is also provided for the other three specialties.

(8) The essential feature of medical audit is the comparison of accepted standards of medical care against the quality of care actually provided. The output of computer data described above allows the information on care provided, to be presented in a form in which departures from accepted standards can be easily recognised.

(9) The standards of care set are those which are acceptable to the medical profession in general.

(10) The main function of M.A.P. is therefore to provide a screening device to draw attention to those cases in which there appears to be a departure from these accepted standards. This enables a further review of the case to be made in the light of all the available clinical information. This review is made by an elected committee of clinicians from the appropriate specialty. Any apparent anomalies in care can then be discussed with the clinician who is thus appraised of any possible deficiency and is helped to take action to prevent its future recurrence.

(11) M.A.P. is therefore an educational tool. It is particularly emphasised that it is not possible to take any form of disciplinary action on audit data alone.

Examples of the nature of audit may help to clarify these points considered above:

(1) Review of a quarterly P.A.S. - M.A.P. report for a particular hospital indicated that three medical patients suffering from coronary disease did not meet the accepted standard of care which suggests that each patient should have haemoglobin, haematocrit and urinalysis performed as routine investigations. The accompanying diagnostic listing, however, revealed that of these three coronary patients, two had died within one day of admission. The third case however, showed that an elderly patient had been in the hospital for 29 days without having these investigations performed. Attention was therefore drawn to this case so that it could be more fully considered.

(2) Another quarterly report indicated that one surgical patient diagnosed as having appendicitis did not have a white blood count performed pre-operatively. In the diagnostic list of individual cases this patient was identified and the following additional facts emerged that a urinalysis had not been performed and that the pathological report indicated that the organ showed no abnormality.

(12) The Commission on Professional and Hospital Activities emphasised that at no time do they ever make value judgments about either an individual hospital or an individual record. Their sole purpose is to present information in such a way that analyses and case abstracts which might call for a critical review are easily spotted. The review and criticism, if any, is always undertaken at a local hospital, by a locally elected committee.

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